

PUBLIC HEARING
BEFORE THE
CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)	
)	
BUILDING ENERGY EFFICIENCY)	
STANDARDS, CALIFORNIA CODE OF)	DOCKET NO:
REGULATIONS, TITLE 24, PART 1)	02-NFRC-1
and PART 6 - "2005 BUILDING)	
ENERGY EFFICIENCY STANDARDS")	
_____)	

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
HEARING ROOM A
SACRAMENTO, CALIFORNIA

THURSDAY, SEPTEMBER 4, 2003

10:13 A.M.

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1 P R O C E E D I N G S

2 10:13 a.m.

3 PRESIDING MEMBER PERNELL: Good morning.

4 My name is Robert Pernell; I am the Presiding
5 Member of the Energy Efficiency Committee. I'd
6 like to welcome you all to the Committee hearing
7 on the '05 building energy efficiency standards
8 express terms, 45-day language.

9 I'd like to introduce Commissioner
10 Rosenfeld, the other Commissioner on the
11 Efficiency Committee. With us are my Advisor,
12 Rosella Shapiro and Commissioner Rosenfeld's
13 Advisor, John Wilson. Mr. Wilson is to my far
14 left.

15 The purpose of this workshop is to
16 obtain public comment on the express terms 45-day
17 language. The express terms cover all areas of
18 the standards including indoor and outdoor
19 lighting revisions.

20 I'd like to thank all of the
21 stakeholders, the CEC contractor team, an the team
22 of consultants that have worked with the
23 Commission Staff to develop analyses supporting
24 the express terms that we will be discussing
25 today.

1 We have had many challenges and made
2 much progress in developing these documents.
3 Everyone who has worked on these standards has
4 done their very best, and the related manuals, as
5 well, to help us meet our legislative mandate.

6 I'd like us to keep the spirit of
7 problem solving for the greater good with us all
8 day. With that, Commissioner Rosenfeld, do you
9 have any comments?

10 COMMISSIONER ROSENFELD: No, I don't.

11 PRESIDING MEMBER PERNELL: Before we
12 begin I'd like to ask Ms. Shapiro if she has any
13 housekeeping remarks.

14 MS. SHAPIRO: Well, I do have
15 housekeeping remarks. We don't have blue blue
16 cards today. Trying to keep this all going
17 smoothly we're going to use three different color
18 cards. They're clearly labeled, residential,
19 nonresidential and outdoor lighting.

20 I'd like you to keep your comments one
21 topic per card. You can put in as many cards as
22 you want, but one topic per card. And if you give
23 them to Bryan, then Bryan will bring them to me --
24 oh, I'm sorry, if you give them to Elaine, then
25 Elaine will bring them to me.

1 MS. HEBERT: I'll be your flight
2 attendant today.

3 (Laughter.)

4 MS. SHAPIRO: And then we'll call you.
5 Even though we have a card with your name on it,
6 when you are called up to speak please identify
7 yourself clearly for the record.

8 I think that's it.

9 PRESIDING MEMBER PERNELL: All right.
10 With that, let me just say this is a formal
11 hearing, but we want everyone to be relaxed. And
12 we're certainly interested in all of your
13 comments.

14 And now I'd like to turn the hearing
15 over to Mr. Pennington, Bill Pennington, who will
16 get us started.

17 MR. PENNINGTON: Okay, thank you,
18 Commissioners. I'm Bill Pennington; I'm the
19 Manager of the Building Standards and now the
20 Appliance Standards Programs at the Commission.

21 I just wanted to give you a little bit
22 of explanation of where we are. On August 8th we
23 published the notice of proposed action which
24 formally starts the 45-day language notice period.
25 And so that started a clock, and we're into the

1 formal part of the project.

2 Basically all the work we've done up to
3 this point, all the workshops and so forth, have
4 been information gathering and working on drafts,
5 and you know, trying to refine things. But now
6 we're into the rulemaking part of the proceeding
7 where there is a definite proposal, and we're
8 seeking comment on that proposal.

9 This is the day to make your comments
10 related to -- or to the Energy Efficiency
11 Committee on the 45-day language. If the
12 Commission decided to make no changes whatsoever
13 to the document, or documents I should say, then
14 the documents could be adopted by the Commission
15 on October the 8th.

16 The staff is proposing to make a variety
17 of changes, and we suspect you're going to have
18 comments that we need to consider for possible
19 changes. So it's extremely unlikely that we
20 actually would adopt 45-day language on October
21 the 8th. And very likely that we will have 15-day
22 language that we officially publish after October
23 8th, and that we adopt on November the 4th.

24 We have a first draft of 15-day language
25 changes that we're offering for your review and

1 comment right now. These are not the official 15-
2 day language, so don't be confused by that. But
3 this is a first cut at changes that we see as
4 appropriate, and we'll be talking about those a
5 little bit today as we go through.

6 So, you know, -- and it's possible we'll
7 revise those and actually make a second draft
8 available for reaction before we have official
9 formal 15-day language published.

10 So that's what we're about. Today's an
11 important day for getting your comments. It's
12 certainly not the last day to get your comments,
13 and we will certainly respond and consider written
14 comments, as well. But certainly today is an
15 important day.

16 So, with that, I'd like Bryan Alcorn to
17 explain the agenda and how we're going to operate
18 today.

19 MR. ALCORN: Thank you, Bill,
20 Commissioners. Before I go over the agenda for
21 the day I'd like to remind everyone to please sign
22 in or staple a business card outside in the lobby.
23 If you haven't done that, I would ask that you
24 please do that.

25 Also I want to comment that we're a

1 little photocopy challenged for today's hearing.
2 We had a couple of major photocopy breakdowns as
3 we were trying to print these really large
4 documents, so we're still making photocopies. If
5 you don't have copies, you know, please go out and
6 check at the break for anything that you don't
7 have right now.

8 I'll say that I hope that most of you
9 brought in documents that you downloaded from the
10 project website, the rulemaking webpage, in order
11 that, you know, you don't have redundant copies.

12 Regarding the agenda, the day's broken
13 up into, as you can see if you look at your
14 agendas, where we're going to talk about changes
15 for all buildings here in the first part of the
16 day.

17 Then we're going to try, before
18 lunchtime, to talk about residential buildings,
19 changes to residential buildings. And after lunch
20 we'll talk about nonresidential buildings and then
21 outdoor lighting and signs.

22 The format for each section of the day
23 will start off with Charles Eley doing a brief
24 overview of the 45-day revisions that are in the
25 express terms and posted to the project website.

1 And then Bill Pennington will give a brief
2 overview of the first draft of the 15-day
3 revisions, which hopefully you all have a copy of
4 now.

5 And the same format, of course, will be
6 for each section of the day. So, with that, I'd
7 like to turn the meeting over to Charles to do
8 this overview.

9 MR. ELEY: Thank you, Bryan. In this
10 first part of the presentation we're going to
11 cover the major changes that affect both
12 residential and nonresidential buildings.

13 The first change is time dependent
14 valuation, or as we call it, TDV. This really
15 changes the currency for doing performance
16 calculations. We no longer have a constant source
17 multiplier in electricity of 3, but rather that
18 number varies by climate zone and by each hour of
19 the year.

20 This helps us a great deal towards
21 favoring measures that do a better job of reducing
22 peak demand. This measure has been under
23 development for about three or four years, mostly
24 with funding and support from Pacific Gas and
25 Electric. And a summary of the time dependent

1 valuation values are in joint appendix 3.

2 The next big change that affects all
3 buildings are changes in the federal appliance
4 standards. There's really two things here. These
5 are actually outside of this proceeding, but they
6 have quite a big impact because they will serve to
7 make the performance -- the standard design more
8 stringent and the budget more stringent.

9 The first one is that the SEER of air
10 conditioners will become 12. And this is a
11 federal change. And the other change which is
12 quite significant is that the energy factor of
13 water heaters becomes more stringent.

14 For gas-fired, storage-type water
15 heaters the energy factor basically increases
16 across the board by .05. So, before or currently
17 a 50-gallon water heater would be required to have
18 an energy factor of .53 roughly, actually .525.
19 And that number would become .58 with the new
20 standards.

21 The third thing that I'll mention is
22 really kind of an organizational issue. As you
23 know you've got four documents in front of you.
24 You've got the standards, themselves; and you have
25 the residential ACM manual and the nonresidential

1 ACM manual.

2 As we were working on these documents we
3 realized that there were several big pieces of
4 information that were common to all of these
5 documents, so we created four joint appendices
6 that deal with all buildings.

7 The first one is a glossary of terms, so
8 that the definition of SEER or EER is the same,
9 whether it's in the context of a residential or a
10 nonresidential building. And this glossary of
11 terms is also consistent with the definitions in
12 the standards and in the appliance standards.

13 The second joint appendix summarizes all
14 of the climate data and the design conditions for
15 sizing equipment. Before this was scattered in
16 several places; some of it was in the res manual
17 and some of it in the res ACM and the nonres ACM.
18 We've now collected it all in one place, and
19 there's one table for design conditions that has
20 the 1 percent, 2.5 percent numbers, which can be
21 used for any type of building.

22 The third appendix is a summary of the
23 time dependent valuation data. The actual data
24 are quite lengthy, consisting of close to 100,000
25 numbers. So that data is not actually published

1 in paper format. Like the climate data, that will
2 be available only in electronic form. So what's
3 in this appendix is a summary.

4 The fourth joint appendix has common
5 construction assemblies. So U factors for walls,
6 roofs, floors, slabs are all presented in one
7 place; and those U factors are the same U factors
8 whether that slab exists in a residential building
9 or a nonresidential building.

10 There has been some changes in joint
11 appendix 4 since the last draft, which was
12 February, I believe, of this year. We now plan to
13 eliminate the form 3's. But that puts a burden on
14 us to expand these tables to include every
15 possible situation. And a few things have been
16 brought to our attention of late, and those will
17 be corrected in the 15-day language process.

18 MR. PENNINGTON: So I can go over the
19 15-day language things that relate to all
20 buildings, if that's appropriate, Commissioner?

21 MR. ELEY: Yeah.

22 PRESIDING MEMBER PERNELL: Yes.

23 MR. PENNINGTON: Okay. In the 15-day
24 language there is sort of the next cut on joint
25 appendix 4. We've been getting comments from

1 CABEC about, you know, wanting to make sure that
2 this is a practical way to go, and that we deal
3 with all of the common assemblies and so forth.

4 And so we've been working on comments
5 that they've made to us and this is an
6 improvement, from our vantage point, over what was
7 in the 45-day language. We don't think we're done
8 with that project yet, and we intend to continue
9 to discuss with CABEC this new draft language and
10 whether or not this is responsive to the concerns
11 they're raising.

12 Also, there's the intent to add some
13 tables for some configurations that have been
14 identified by CABEC. In particular, Gary Farber,
15 for nonresidential buildings. And Charles has
16 started to work on those, and we're not yet
17 complete with those. But we do intend to add
18 some -- do you want to mention the ones that
19 you've already been working on, Charles?

20 MR. ELEY: Yes. One of the
21 constructions that's not there and we believe
22 needs to be added is the common roof construction
23 in type 1 or 2 buildings. These are typically
24 high rises. And it's typically a metal span deck
25 usually with some lightweight concrete on top of

1 that, and then some rigid insulation over that.
2 Usually there's fireproofing underneath. So we're
3 adding a table under roofs to deal with that
4 situation.

5 We're also expanding a couple of the
6 other tables. There's a table for concrete
7 floors. And one of the situations is insulation
8 located above the floor. And CABEC called to our
9 attention that sometimes that insulation is
10 continuous, and sometimes there's wood sleepers
11 between the insulation and the plywood is on top
12 of those sleepers. So we're expanding the table
13 to include both of those situations. And there's
14 a few other expansions to the tables, as well.

15 One of the things that has been
16 suggested is that interpolation between values in
17 the table only be permitted when ACMS or computer
18 programs are used. And that for prescriptive
19 compliance purposes for simplicity that
20 interpolation not be permitted. So we're
21 proposing -- I think that's actually in your 15
22 language --

23 MR. PENNINGTON: There's an attempt at
24 that, yes.

25 MR. ELEY: -- changes. And another case

1 that was brought to our attention is the case of
2 tapered roof insulation. This is a special
3 product where the actual thickness of the
4 insulation may range from 3 inches at the minimum
5 point to maybe more than a foot at the maximum
6 point. And it's used to provide positive roof
7 drainage when the structure is dead flat. And
8 there's a couple of manufacturers that make this
9 tapered product. So we've added a procedure to
10 deal with that situation.

11 Those, I think, Bill, are the main
12 changes that we're addressing.

13 MR. PENNINGTON: Okay. One other thing
14 that's in the first draft of the 15-day language
15 related to all buildings is appendix 1A, which is
16 the appendix at the end of the standards that has
17 the references to other standards that we refer
18 to. That document, there's some clean-ups here to
19 take care of; things being out of alphabetical
20 order, or a typo, or not having the right address,
21 or mentioning the wrong addition. There's too
22 many of those here; it's kind of embarrassing.
23 But this document is cleaned up now.

24 And that's all we have for all
25 buildings.

1 PRESIDING MEMBER PERNELL: Okay. Are
2 there any questions for the -- yes. We would ask
3 that you come to the mike and state your name and
4 organization.

5 MR. HODGSON: Commissioner Pernell, Mike
6 Hodgson, CBIA. I just want to understand the
7 intent. Are you eliminating the form 3? So if
8 there is a new wall assembly, for example, that
9 comes up, how would we deal with that in a
10 computer compliance approach?

11 MR. PENNINGTON: The idea is to have the
12 assemblies in joint appendix 4. And to cover
13 them. And that you use -- if your assembly is
14 slightly different than those, than what's there,
15 you use what's there.

16 MR. HODGSON: Um-hum.

17 MR. PENNINGTON: And, you know, one of
18 the things we're trying to get away from is very
19 minor changes in finishes; and also errors that
20 we've seen in how you calculate air films and that
21 sort of stuff. You know, there's sort of a mess
22 that happens with everyone doing it their own
23 way. And so we're trying to standardize that.

24 If there's an assembly that is
25 completely different than what is in joint

1 appendix 4, the intent is that you would come to
2 the Executive -- you would come to the Commission
3 and the Executive Director would have authority to
4 approve those. So there's staff --

5 MR. HODGSON: -- alternate calculation
6 methodology that you'd have to go through? Is it
7 a complicated application similar to what we have
8 to do now with an ACM?

9 MR. PENNINGTON: Basically.

10 MR. HODGSON: Okay.

11 MR. ELEY: No, no, it would be at the
12 discretion of the Executive Director, as opposed
13 to the exceptional methods process.

14 MR. HODGSON: Okay, so you can just come
15 in with these calculations done; the staff reviews
16 it; and then --

17 MR. ELEY: Right, and --

18 MR. HODGSON: -- approved --

19 MR. ELEY: -- you would be, in essence,
20 amending joint appendix 4.

21 MR. HODGSON: Okay. I think it's a good
22 idea. I just think the option of innovation
23 should not be shut.

24 MR. ELEY: Right.

25 MR. HODGSON: And as long as that's been

1 thought through. The other thing is, this is
2 relatively -- unless I'm not paying attention,
3 which is a very strong possibility, the idea of
4 not having form 3s after 2005 is a new concept to
5 me. And I doubt if other building product
6 manufacturers know that.

7 And I think if I were a building product
8 manufacturer I'd want to make sure I had my
9 product in this appendix, and make sure I was
10 covered. And I don't think that highlight or
11 alert has gone to those folks. And we'd be happy
12 to assist you to do that.

13 Thank you.

14 PRESIDING MEMBER PERNELL: Thank you for
15 your comments.

16 MR. PENNINGTON: Michael, just one other
17 reaction to that last statement. We also, since
18 we're going to be looking at revised, we're
19 looking for applications to change this on an
20 ongoing basis.

21 We would have the opportunity to do that
22 while we're working on the design manual or for
23 anytime during this transition between the
24 adoption of the standards and the effective date
25 of the standards.

1 We could entertain for manufacturers'
2 proposals, for getting, you know, standard form 3s
3 done that are consistent with --

4 MR. HODGSON: So really there's a two-
5 year heads-up --

6 MR. PENNINGTON: Right.

7 MR. ELEY: Yeah, basically we've got a
8 long time to get this right. The joint appendix 4
9 basically is not being frozen. You know, we're
10 leaving open the possibility of amending it,
11 adding new rows, adding even new tables, if
12 necessary.

13 MR. HODGSON: Okay. Thank you.

14 PRESIDING MEMBER PERNELL: Thank you.
15 Are there any other questions? Yes.

16 MR. YUREK: Good morning, Commissioner
17 Pernell, --

18 PRESIDING MEMBER PERNELL: Good morning.

19 MR. YUREK: -- Commissioner Rosenfeld.
20 I have a basic question that relates to --

21 PRESIDING MEMBER PERNELL: Name for the
22 record, please.

23 MR. YUREK: Sorry. Stephen Yurek with
24 the Air Conditioning and Refrigeration Institute.

25 The question I have was one that kind of

1 came to me as I saw your slide referencing the
2 federal appliance standards.

3 Does the manual reflect that even though
4 the building code goes into effect July 1 of 2005,
5 that the federal standard of 12 SEER for
6 residential air conditioners does not go into
7 effect until January 26, 2006? So there is a
8 seven-month period which the standard is only 10
9 SEER for those appliances.

10 MR. PENNINGTON: Yes.

11 MR. ELEY: It does.

12 MR. YUREK: Okay.

13 MR. ELEY: During that interim it would
14 be at 10 would be your standard design.

15 MR. YUREK: Okay.

16 PRESIDING MEMBER PERNELL: Thank you.
17 Any other questions on the first section there,
18 changes to all buildings? Yes, sir.

19 MR. DAY: Michael Day with Rockwood
20 Consulting representing Beutler. I noticed a
21 change with the joint appendices to the outdoor
22 design temperatures.

23 MR. PENNINGTON: That's an issue related
24 to nonresidential that we'd like to talk about at
25 that point on the agenda.

1 MR. DAY: Okay.

2 MR. PENNINGTON: Thanks.

3 PRESIDING MEMBER PERNELL: All right,
4 any others? Seeing none, we'll move on -- oh,
5 okay.

6 MR. WARE: My name is David Ware,
7 representing Owens Corning and the North American
8 Insulation Manufacturers Association. Actually my
9 comment, I believe, is really all buildings --
10 it's in section 101 the definitions and rules of
11 construction.

12 There are a number of references to
13 specific test standards that have never been in
14 the definition section before. And they really
15 should go into the appendix section where the
16 reference standards are.

17 I am not sure why they have been placed
18 in that spot, but it does make the definition
19 section overly cumbersome. If one was to go there
20 and look for the definitions of various things
21 they get inundated with a whole bunch of listing
22 of ANSI standards, UL standards, NFRC standards
23 and things of that sort.

24 So I recommend just moving all those
25 reference standards into the appendix.

1 MR. PENNINGTON: We did this, Dave, as a
2 way to streamline the standard and to improve the
3 way we do updates to standards in the future.

4 In the past we've had specific
5 references to test procedures sprinkled through
6 the document with the dates associated with those
7 test procedures or referenced documents there and
8 the numbers and that sort of thing.

9 And so whenever we wanted to get into
10 updating the standard we'd have to find everyone
11 of those and get them all changed. And actually
12 there's a number of errors in the standard where
13 that didn't happen in the past.

14 So, as a solution to that we're
15 mentioning just the name of the reference in the
16 standard, itself. And we have the date and the
17 specific title of the standard and so forth in the
18 definitions.

19 And we're trying to do that to help
20 avoid problems with updating. And our counsel has
21 advised that we can't do that if we just have
22 those in the appendix. That we actually have to
23 have them in the -- the definitions are truly part
24 of the standard; the appendix is an appendage to
25 the standard.

1 And so this is the way that we've come
2 up with to get all our references in one place,
3 and so we can update them all at once, instead of
4 having the information about references sprinkled
5 throughout the standard.

6 So it does have the effect of adding
7 some lines to the definitions, we agree.

8 MR. ELEY: I had the same comment as you
9 early on until it was explained.

10 MR. WARE: Just a point of clarification
11 through the Committee. Then the appendix will
12 still reference the generic standards --

13 MR. PENNINGTON: You look at the
14 appendix it has the information there.

15 MR. WARE: Yeah. Okay.

16 MR. PENNINGTON: The appendix has, in
17 addition to that, ways to get the references. It
18 has the addresses, it has phone numbers for how to
19 acquire the references.

20 MR. WARE: Okay, that was my comment.
21 Thank you.

22 PRESIDING MEMBER PERNELL: Okay, thank
23 you.

24 MR. NITTLER: Ken Nittler with Enercomp.
25 On joint appendix 4 on materials that have mass

1 involved, I would ask that we include a
2 documentation of what the thermal conductivity and
3 the heat capacity per cubic foot is, because at
4 least in the residential programs that's the
5 information they're asking for.

6 PRESIDING MEMBER PERNELL: Point well
7 taken. I see everybody shaking their heads. Yes.

8 MR. YUREK: Commissioner, Steve Yurek
9 with ARI. I was wondering if this would be the
10 appropriate time to make a comment in general.
11 You had said that this was for questions and I
12 just want to make sure if it's appropriate to do
13 comments now, as well, or -- on this issue?

14 PRESIDING MEMBER PERNELL: You're up
15 there.

16 MR. YUREK: All right. Steve Yurek with
17 ARI. Joe Mattingly from GAMA will join me, as
18 well.

19 PRESIDING MEMBER PERNELL: This is a
20 general comment?

21 MR. YUREK: This is a general comment.
22 It covers both the residential as well as the
23 nonresidential general provisions of Title 24.

24 This morning I appreciate this
25 opportunity; I'm here, as well as Joe,

1 representing ARI, GAMA, as well as the Association
2 of Home Appliance Manufacturers and the National
3 Electrical Manufacturers Association.

4 We are submitting these comments in the
5 intent to hopefully work with the Commission in
6 making and developing a reasonable and lawful
7 building code program.

8 These comments are being presented more
9 to put on the record our concern and position as
10 it relates to our favorite topic, which is federal
11 preemption, as it relates to federally covered
12 products and federally covered equipment.

13 The rules of federal preemption are
14 different depending upon whether the appliance is
15 for residential or commercial use. For
16 residential there is no blanket exemption for
17 preemption for building codes, but an exception
18 for limited building code provisions that meet all
19 the requirements of 43USC6297(f).

20 For those building code provisions that
21 meet these requirements to be accepted from
22 preemption the exception is only for the
23 efficiency level, as established by the Department
24 of Energy, not the other preemption provisions of
25 EPCA, including testing, information filing,

1 standards and the labeling provisions, which are
2 expressly preempted under 42USC6297(a).

3 EPCA does not allow, under any
4 circumstances, a state to adopt or enforce a
5 building code provision that requires the
6 installation of a covered product, and this is for
7 residential purposes, with an efficiency standard
8 greater than the minimum efficiency standard set
9 by the Department of Energy without receiving
10 first a waiver from preemption from the DOE.

11 The purpose of 6297(f) related to the
12 exception to preemption for building codes is for
13 EPCA's efficiency standard preemption was to
14 provide an option to consumers to select a higher
15 efficiency covered product as a one-to-one energy
16 usage tradeoff with another energy-impacting
17 product or application.

18 What this means for residential, as it
19 relates to air conditioners, is that the CEC could
20 give credit to a consumer who selects a higher
21 SEER air conditioner as a one-to-one tradeoff for
22 greater window area or other energy impacting
23 properties in that building. It does not give the
24 Commission the authority to require EER, TXV or
25 other energy factors without first receiving a

1 waiver from the Department of Energy for
2 regulating under those provisions.

3 For commercial nonresidential buildings
4 it's much different. All state regulations,
5 including building codes regarding covered
6 equipment, are preempted on the effective date of
7 the federal standard, except a state building code
8 may adopt the minimum efficiency requirements of
9 the current ASHRAE90.1.

10 So, in other words, even though at this
11 point in time I believe the DOE is still back in
12 90.1, I think it's '95, you could adopt the
13 provisions of 90.1 2001 and have those effective
14 in your standard and not be preempted by federal
15 law.

16 As with the residential building code,
17 the exception to preemption is limited to the
18 efficiency standard and does not apply to testing,
19 information filing and labeling, which are the
20 sole domain of the DOE for covered equipment.

21 An example of the violation of
22 preemption provisions of EPCA that's contained in
23 the current Title 24 is references such as under
24 part 6, section 100(h) and also section 111, part
25 6, where Title 20 is referenced, or the

1 requirement that the certification status of each
2 such manufactured device may be confirmed by
3 reference to 1) the directory published or
4 approved by the Commission; or a copy of the
5 application of certification from the manufacturer
6 and a letter of acceptance from the Commission
7 Staff; or written confirmation from the publisher
8 of a Commission-approved directory; or a
9 Commission-approved label on a device.

10 All four of those provisions are not
11 allowed by California for covered products or
12 covered equipment.

13 In addition, the only reference
14 directory in appendix 1A for products covered by
15 Title 24 is the CEC's certified appliance
16 directory. In this directory the only products
17 that will be listed in the information there are
18 non-federally covered products and equipment.

19 All federally covered products and
20 equipment are not required to be listed in that
21 directory or the information to be filed for that
22 directory. This also reflects the order of the
23 permanent injunction issued by the Eastern
24 District Court, federal court in California here,
25 which said that the federally covered products and

1 equipment cannot be required to comply with Title
2 20 of the CEC.

3 The problem that we have with the way
4 the current Title 24 regulations are written is
5 that if they do not comply with those provisions
6 and are not listed in the CEC's database or
7 certified by the CEC by their standards, failure
8 to comply will result in the home or building not
9 receiving a final occupancy permit.

10 Again, California does not have the
11 authority under federal law to regulate covered
12 products or covered equipment.

13 To remedy these violations what we're
14 looking at is that the CEC remove all references
15 to Title 20 as it relates to covered products and
16 covered equipment; and Title 24, that the CEC
17 remove all references to standards, testing
18 procedures, energy efficiency descriptors,
19 information filing and certification requirements
20 for covered products and covered equipment in
21 Title 24.

22 And that the CEC specifically state that
23 covered products and equipment can be installed if
24 they meet the federally required minimum
25 efficiency standards established by the Department

1 of Energy. And that this information can be found
2 either in trade association product directories,
3 manufacturers' product information sheets, or on
4 the FTC label where all this information is
5 available.

6 With that, we, as I stated at the
7 beginning, look forward to working with you in
8 remedying these concerns that we have with Title
9 24 similar to what we had with Title 20.

10 I don't know if Joe has --

11 MR. MATTINGLY: No, I have nothing to
12 add.

13 PRESIDING MEMBER PERNELL: Okay. Do you
14 have a question?

15 MS. SHAPIRO: Yes. I want to know, do
16 you want to speak again and say the same thing
17 when we get to res?

18 MR. YUREK: Not if I --

19 MS. SHAPIRO: No. Just --

20 MR. YUREK: I was just doing that to
21 make sure. I didn't know if this would be -- I
22 thought it would be better to do it one time
23 rather than trying to repeat it two or three
24 times.

25 MS. SHAPIRO: Right. Joe, I'm keeping

1 your card because it's specific.

2 PRESIDING MEMBER PERNELL: All right.

3 Mr. Mattingly, do you want to add to that, or --

4 MR. MATTINGLY: No. I think Steve has
5 covered it very well. Simply put, your Title 24
6 references Title 20 regulations which have been
7 permanently enjoined by the court. So you don't
8 have any foundation any longer for those
9 references in Title 24.

10 PRESIDING MEMBER PERNELL: All right,
11 gentlemen, thank you for your comments.

12 MR. YUREK: No problem. I have one
13 unrelated thing that related to preemption. It's
14 more a clarification.

15 Under appendix 1A when you list the
16 standards, you put also the year. I can tell you
17 for the ARI standards 210 240, as well as 310 380,
18 those are not the most current standards.

19 And I would recommend, rather than
20 putting a year, putting, you know, current, most
21 current or removing the year reference, because
22 they are updated on a regular basis, at least
23 every five years if not sooner. And so by putting
24 1994 that's already been replaced by a more
25 current standard, which it's being taken care of.

1 PRESIDING MEMBER PERNELL: All right,
2 thank you.

3 MR. PENNINGTON: Excuse me, sir. You
4 said 210 and 240? What is your understanding of
5 the current --

6 MR. YUREK: I believe they just reissued
7 another one. I think it's 2001 is the most
8 current.

9 MR. PENNINGTON: And the other test
10 procedure you mentioned was?

11 MR. YUREK: 310 380 has been rewritten.
12 I don't know what the current date is. I just
13 noticed that when I was reading through your 15-
14 day language, also. And I'm going, those are, I
15 know they've been replaced by more current
16 standards.

17 And so it's probably best just to remove
18 the dates and just reference the standard and --

19 MR. PENNINGTON: We can't remove the
20 dates, but we want them to be correct.

21 MR. YUREK: That would then require
22 every time that those things are revised, because
23 once they're revised they're no longer certified
24 under that old standard. And therefore, they
25 wouldn't be in compliance with your Title 24.

1 MR. PENNINGTON: Correct.

2 MR. YUREK: Or if there's some way that
3 you can talk with legal counsel to say the most
4 current rather than putting a specific date for a
5 standard.

6 MR. PENNINGTON: Can't do that.

7 MR. YUREK: Because the same thing
8 occurs with ASHRAE and others. They revise those
9 on a regular basis and once they've been revised
10 manufacturers are no longer using the old
11 standards to certify their equipment.

12 MR. PENNINGTON: Thanks.

13 MR. YUREK: Yeah.

14 PRESIDING MEMBER PERNELL: Thank you.

15 All right, anyone else want to speak on the first
16 section, changes to all buildings?

17 Seeing none, Mr. Pennington, residential
18 buildings.

19 MR. PENNINGTON: Okay, so, Charles are
20 you ready for that?

21 MR. ELEY: I want to first of all
22 recognize Bruce Wilcox who did the technical lead
23 on the residential standards changes; Ken Nittler,
24 who is also in the audience. Both of them have
25 done most of the work on residential standards

1 changes.

2 Except for this one. This is the --
3 first change I'm going to talk about is the
4 efficient lighting changes. This was actually, I
5 think, proposed by HMG and PG&E.

6 And with this change I think we're
7 simplifying the lighting requirements as they
8 apply to the residences considerably. We're
9 defining a high efficacy luminaire, which is
10 depends on the watts of the luminaire. And then
11 also identifying hardwired lighting as opposed to
12 portable lighting. These standards would only
13 apply to hardwired lighting.

14 And what the standard says is that half
15 of the luminaires in the kitchen, or half the
16 power of luminaires in the kitchen have to be high
17 efficacy luminaires. And the ones that are not
18 high efficacy have to be switched separately.

19 In bathrooms, utility rooms, garages and
20 laundry rooms all the hardwired luminaires have to
21 be high efficacy or they have to be controlled by
22 an occupant sensor.

23 In other spaces such as bedrooms or
24 dining rooms then the luminaires have to be high
25 efficacy or they need to be controlled by an

1 occupant sensor or a dimmer.

2 Outdoor lighting has to be high efficacy
3 or it can be controlled by a combination of
4 photocell and occupant sensor.

5 And then the last requirement is also
6 quite important. Lights that are -- or luminaires
7 that are recessed in insulated ceilings have to be
8 rated so that the insulation can be in direct
9 contact with the luminaire; and the luminaire also
10 has to be air-tight so that we don't compromise
11 the air barrier.

12 The duct insulation requirements have
13 become a little more stringent. In climate zones
14 14, 15 and 16 R8 is now required. R4.2 in climate
15 zones 6, 7 and 8; and all the other climate zones
16 it's R6.

17 In terms of hot water pipe insulation
18 the line that runs from the tank to the kitchen
19 now has to be insulated. So that's the major
20 change there.

21 With regard to multifamily there have
22 been several changes that will make the
23 performance approach, at least, the multifamily
24 more stringent. Probably the -- there's two
25 changes, and I'm not sure which one's more

1 important. They're both extremely important.

2 The first one is that there's no
3 tradeoffs for reduced glass area below the
4 prescriptive limit of 20 percent. Data shows that
5 most multifamilies, the average for multifamilies
6 is around 12 percent. So before, the difference
7 between 12 percent glazing and 16 was a tradeoff
8 that could be made, and insulation could be
9 removed or less-performing windows could be
10 installed.

11 This is also a change for single family
12 homes, as well. The prescriptive limit on glazing
13 has been made 20 percent in all climate zones. So
14 in many of the climate zones currently it's 16
15 percent. So it's going up to 20. But there's no
16 downward tradeoffs. There's no credit for
17 reducing glass below that prescriptive limit.

18 The other change which will make the
19 performance approach more stringent for
20 multifamily is that for water heaters the standard
21 design water heater is a central system if the
22 proposed design has a central system. Previously
23 the standard design was individual water heaters
24 in each dwelling unit. And if you were proposing
25 the central system you got a lot of credit for

1 that. And so that's no longer the case.

2 There have been a number of other
3 modifications to multifamily water heating, as
4 well, but I think this change in how we define the
5 standard design is most central.

6 In the section that deals with
7 renovations or alterations and additions we're now
8 applying, if the homeowner is replacing all the
9 windows in a house those new windows have to meet
10 the new prescriptive criteria for U factor and
11 SH2C. There's quite a number of window
12 replacements in California, so this is an
13 important measure that expands the scope of the
14 standard into existing homes to some extent.

15 New spaces, and then again, dealing with
16 existing buildings, if you replace the air
17 conditioning indoor unit, or you install new ducts
18 in existing homes, then those ducts have to be
19 sealed according to the prescriptive standards and
20 they have to be insulated according to the
21 prescriptive standards. So this, again, is a
22 significant change that affects the application of
23 the standard in existing buildings or alterations,
24 really, to existing buildings.

25 There's a number of new compliance

1 options that are offered. These don't affect the
2 stringency of the standards, but they do offer new
3 ways to comply with the standard.

4 The first one is that there's credit now
5 for HERS verified quality insulation. And these
6 are all offered just through the performance
7 approach.

8 There's also credit for properly sized
9 air conditioners, efficient fan motors in air
10 conditioners. There's a credit for the instance
11 where HVAC or air distribution ducts are placed on
12 the floor of the attic and covered with the blown-
13 in insulation. That's an alternate way of meeting
14 insulation requirements.

15 And finally there's a credit for air
16 conditioners that have a high EER, or energy
17 efficiency ratio. The normal air conditioners are
18 modeled with the default EER and if you have a
19 piece of equipment with something that's better
20 than the default you get credit for that.

21 And then I think this is the last page
22 of it I'm going to talk about. This has to do
23 with third-party verification of some measures.
24 There have been changes to encourage quality
25 insulation with field verification.

1 And we've also improved the protocols
2 and procedures for field verification and
3 diagnostic testing. This includes the refrigerant
4 charge verification, duct sealing and so forth.

5 Bruce, do you want to add anything?

6 MR. PENNINGTON: I have one question,
7 Mr. Eley. On the window replacement you said if
8 you replace all windows?

9 MR. ELEY: That's correct.

10 MR. PENNINGTON: Then you would have to
11 go to the higher efficiency window?

12 MR. ELEY: Um-hum.

13 MR. PENNINGTON: Actually if you replace
14 any window it's required.

15 MR. PENNINGTON: Yeah, I thought I heard
16 all, that's why I'm asking the question.

17 MR. ELEY: I did say all, and I spoke
18 incorrectly. Sorry.

19 MR. PENNINGTON: So, just one thing I'd
20 like to add, Bruce Wilcox has done a revised cost
21 effectiveness analysis of duct insulation, and
22 that's available on the table.

23 In terms of 15-day language I'd like to
24 go over what's included here in the first draft of
25 the 15-day language. The first item relates to

1 kitchen lighting. The alterations requirements of
2 the standards invoke --

3 UNIDENTIFIED SPEAKER: Is this page 51?

4 MR. PENNINGTON: Yes, it is 51. The
5 alterations requirements of the standards invoke
6 the mandatory requirements that are contained in
7 the standards for newly constructed buildings.

8 And so the residential lighting
9 requirements are in section 150(k)(2) which is the
10 mandatory requirement section of the standards.
11 And so the alteration section invokes those.

12 And so in looking at those requirements
13 they all are fairly straightforward for an
14 alteration with the exception of the kitchen
15 requirement that requires 50 -- or has an
16 exception for 50 percent of the -- I'm sorry --
17 that requires 50 percent of the luminaires, of the
18 wattage -- get this correct here -- to be high
19 efficacy.

20 And so if you're only changing less than
21 the whole room full of lighting fixtures as part
22 of an alteration then how would you figure out the
23 50 percent wattage thing.

24 And so we're proposing an exception in
25 the alteration section that says that basically

1 that 50 percent criteria only applies if you're
2 changing out all of the luminaires in the
3 alteration. Otherwise, if you're changing out
4 just one or two, then those have to be high
5 efficacy. So that's the proposed clarification
6 there of how we would deal with that in
7 alterations.

8 The next page in the handout is in the
9 residential ACM manual. There was a suggestion
10 that we make it highly prominent in the CF1R
11 document when HERS field verification and
12 diagnostic testing is required.

13 So even though that shows up later in
14 the document, too, this would be something that
15 would be right at the top that would be highly
16 visible that you need a HERS rater involved in the
17 job.

18 The next three pages from 53 to 56 are
19 some edits to the compliance option and the
20 residential ACM for residential gas cooling. One
21 of the things we discovered is we used to have an
22 option for gas-fired heat pumps. And what the new
23 algorithms cover is gas absorption cooling, and
24 not gas-fired heat pumps. And so there really
25 isn't a technique to do hourly calculations with

1 TDV considerations for gas-fired heat pumps.

2 And so we had a residue of what was
3 previously in the ACM that was still there. So we
4 did some edits there. And we also, in the course
5 of doing that, found a couple of equation
6 references that were incorrect. So those were
7 changed.

8 On page 57 it was pointed out to us by
9 Martin Dodd that the residential ACM was not fully
10 clear in terms of how buildings with multiple HVAC
11 units should be modeled. And so Jon Leber has
12 done some work here to clarify how that would be
13 done.

14 On page 58 the residential ACM has the
15 residential insulation quality protocol in
16 appendix RH and in looking at this there were a
17 couple of things that needed to be changed. This
18 referenced the form 3 calculation approach. And
19 we didn't want to do that because we're proposing
20 not to do that. So basically this is now
21 referencing joint appendix 4. There's a couple of
22 other minor changes there.

23 So that's what we're proposing as a
24 first draft.

25 MS. SHAPIRO: Bill, I have a question.

1 MR. PENNINGTON: Yes.

2 MS. SHAPIRO: When you were talking
3 about having an HVAC system where you had multiple
4 systems in one building in res.

5 MR. PENNINGTON: Yes.

6 MS. SHAPIRO: It looks to me like you're
7 saying if it only serves one floor area. I don't
8 understand what that means. Does it mean
9 multistory versus one story or what does that
10 mean?

11 MR. PENNINGTON: I'm going to let Jon
12 Leber answer.

13 MR. PENNINGTON: You're on page?

14 MS. SHAPIRO: I'm on page 57. It was
15 confusing to me when you explained it.

16 MR. LEBER: Jon Leber, Commission Staff.
17 You may often have a building that may have two
18 air conditioners in it, and maybe they're room air
19 conditioners. And they might serve -- one might
20 serve one room and the other serves the rest of
21 the house.

22 And so you're supposed to effectively
23 allocate the load by virtue of floor area, which
24 is not a perfect answer but it's a simplistic way
25 of getting approximately the right load to each

1 air conditioner.

2 MS. SHAPIRO: But what would be a floor
3 area served by more than one heating system or
4 more than one air conditioning system? You don't
5 have two room --

6 MR. LEBER: A typical place that you
7 might find that sort of thing is if you're going
8 into existing buildings and you find someplace
9 where someone has added a central system, gas
10 fired, to a building that already had all electric
11 baseboard in all rooms. So you actually have dual
12 systems in that particular case.

13 MS. SHAPIRO: Oh, so then you just
14 choose one?

15 MR. LEBER: Yes, and so then you can
16 choose one.

17 MS. SHAPIRO: Okay, thank you.

18 PRESIDING MEMBER PERNELL: All right, do
19 we have any other questions from the dais?

20 We have a number of people who want to
21 speak on this section, so --

22 MS. SHAPIRO: Do you want me to call
23 them?

24 PRESIDING MEMBER PERNELL: Yes. Rosella
25 is --

1 MS. SHAPIRO: Okay, Bob Raymer and Mike
2 Hodgson, can you start off, please.

3 MR. RAYMER: Good morning,
4 Commissioners. I'm Bob Raymer representing
5 California Building Industry Association. And
6 with me is the Chairman of our Energy Subcommittee
7 for CBIA, Mike Hodgson. He will provide six or
8 seven technical questions and comments for staff
9 to look into over the coming weeks. And then I'll
10 conclude by adding a few general comments. Thank
11 you.

12 MR. HODGSON: Good morning,
13 Commissioners and staff and others. This has been
14 a long road and I think it's been actually a very
15 positive and cooperative road. There's been a
16 tremendous amount of decisions that have had to be
17 made to generate the 2005 standards, and I think
18 we're 99 percent of the way there.

19 And CBIA is here to offer their
20 endorsement and adoption of the proposed language
21 with some clarifications and some considerations.

22 As always we like to have prior to the
23 2005 standards becoming effective, a residential
24 manual and software that is available to the
25 compliance community so that we can understand

1 what's going on. And we're sure that that will be
2 available, but it's just a friendly reminder that
3 it's utmost in our concern.

4 In addition I think the largest
5 difficulty in adoption of the 2005 standards are
6 actually in the implementation of the 2005
7 standards is going to be the new lighting
8 requirements for residential housing.

9 And in discussion with staff it's been
10 agreed that there would be a credit that would
11 initiate by the end of this year to encourage the
12 building industry to adopt early these lighting
13 requirements and we would like to urge the
14 Commission to urge staff, I know they have a very
15 busy workload, but we would like to see that
16 credit.

17 Another credit we think is very
18 beneficial to the building industry, as well as
19 the consumer, is the credit for high quality
20 installation of insulation. And we'd like to see
21 that in a parallel path once again by the end of
22 this year.

23 We do have some issues with regards to
24 the recent analysis on the residential duct
25 insulation study. We had a few conference calls.

1 We appreciate Bruce's additional work on this, but
2 we do think the cost of R6 was under-estimated.
3 And in a letter to the Commission we stated it
4 should be approximately \$168 rather than the
5 figure that was used, \$100. And then so that
6 would make R6 ducts not cost effective in climate
7 zones 1 and 3 through 9, which mimics some of the
8 other studies that have been done.

9 We also have a concern about the life
10 cycle analysis and draw assumptions used to
11 recommend the new proposed mandatory feature of
12 kitchen hot water piping. And we're still in
13 discussion on that. We'd like to leave that open,
14 but we'll get back to staff very soon on our
15 recommendation.

16 And there has been another recent
17 suggestion about 13 watt light fixtures be
18 available with electronic ballasts. And what
19 we've asked for here is information on cost and
20 availability so that we can generate an opinion on
21 that, because currently these fixtures, according
22 to our sources, are not available at inexpensive
23 prices in the marketplace.

24 The last issue, and I think it's just a
25 clarification, is that we would like to understand

1 the proposed compressor sizing credit. It is
2 referenced in the residential ACM manual, section
3 4.7.2, but not really explained as to how it will
4 be implemented or the impact of that. So we are
5 looking to staff to give us that information
6 fairly soon.

7 And, as always, CBIA strongly opposes
8 any restriction on air conditioner sizing. And I
9 don't think that's being proposed. But we just
10 want to make sure that we reiterate our opposition
11 to that because that is a very significant issue
12 to that.

13 We think it's been a long process. It
14 has been cumbersome at times, but I think it's
15 been a very good working environment. We
16 compliment staff on their hard work and Bryan's
17 organizational ability and Bill's tolerance.

18 So we urge the adoption. We'd like some
19 clarification, some work with you. We think
20 there's some minor fine tuning, but we look
21 forward to this. Thank you.

22 MR. RAYMER: Thank you. Some general
23 comments. In addition to our ongoing desire to
24 work with the Commission in educating our members
25 and the building officials on compliance, CBIA

1 also feels, and we'll be getting more specific on
2 this at the adoption hearing, but CBIA would like
3 to work with the Energy Commission in some type of
4 a limited, but focused educational effort of our
5 State Legislature.

6 I found during the emergency
7 legislation, AB-970, and most recently with SB-
8 289, the buildup would have promulgated mandatory
9 photovoltaics that a lot of the newer legislators
10 were very much unaware that the state has energy
11 efficiency standards for buildings. And I think
12 that's a function of term limits or whatever, but
13 it would be very helpful to provide maybe a one-
14 sheet hit-piece that could give a historical
15 review and the fact that yes, we do have this in
16 place, and certainly new ideas are always welcome.

17 But during the SB-289 some of the
18 legislators were thinking before we do
19 photovoltaics why don't we look at windows and
20 insulation in walls, which, you know, we had the
21 education -- well, we've considered that for two
22 decades.

23 Lastly, and most importantly, some of
24 you may be aware of the controversy over the
25 effective date. For some two decades CBIA and

1 CALBO have been very supportive and we've received
2 a great deal of cooperation from the Energy
3 Commission eventually to get the building code and
4 the energy code taking effect at the same time.
5 Because these are two, usually the codes that have
6 the greatest amount of changes for both
7 residential and nonresidential.

8 CBIA recognizes the current reality that
9 that's simply not going to be possible. We would
10 hope we would get back to an era where we can do
11 all this in conjunction, but for those of you who
12 are unaware, the Building Standards Commission in
13 July has designated the NFPA5000 as the national
14 building code that will serve as the basis for the
15 2004 California building code.

16 The state agencies such as the
17 Department of Housing and the Division of the
18 State Architect and OSHPD have indicated that
19 choosing this book they will have to accomplish a
20 great deal of work in a short period of time.

21 Specifically agencies such as HCD and
22 DSA will, to the extent possible, be utilizing
23 provisions out of the IBC and hopefully
24 referencing them or perhaps even transcribing them
25 into the NFPA to reduce their workload.

1 If they run into copyright questions
2 that becomes a very laborious task. It means that
3 they will have to develop their own specific
4 language in terms of state amendments that mirrors
5 what's in the IBC, but because of copyright
6 problems it will have to be their own -- they'll
7 have to start from scratch.

8 In doing so that could add a good, I
9 would say, six months to 12 months to the current
10 process. Right now the State Building Standards
11 Commission is guesstimating that we'll have one
12 year from July for the state agencies to turn in
13 their adoption packages for the building code,
14 followed by another year of formal administrative
15 rulemaking, followed by another six months of
16 getting the copyright agreements with these
17 national code writing groups, and then doing the
18 publishing.

19 And by law, once it's published it takes
20 effect at the local level six months after that.

21 If all goes well with the adoption of
22 the building code, which certainly I doubt that it
23 will, but if it went perfectly right now you're
24 looking at a local effective date for the building
25 code of July of 2006.

1 Now, if there's any glitches at all
2 that's going to add time, not take away from it.
3 And so certainly that runs very contrary to the
4 Energy Commission's goal of trying to get their
5 regulations into effect much earlier.

6 And so right now it's the Building
7 Standards Commission recognizing that goal on the
8 part of the Energy Commission they have suggested
9 putting the energy code into effect at the same
10 time as the new plumbing, mechanical and electric
11 codes take effect.

12 And certainly that's about the best we
13 can hope for. But we do hope down the road that
14 we can all get back into having everything take
15 effect at the same time. We're just under a very
16 difficult situation right now.

17 Thank you.

18 PRESIDING MEMBER PERNELL: Well, thank
19 you. Staff, do you want to comment at all on any
20 of the suggestions that Mike alluded to? And
21 first of all, I want to thank you, CBIA, and
22 certainly Bob and Mike for being here.

23 On the legislative question we probably
24 -- I do chair the Legislative Committee so we
25 probably should sit down and talk about how we

1 inform the Legislature on just what we're doing.

2 And how we're working together.

3 I think that's a positive --

4 MR. RAYMER: Particularly the newer
5 members.

6 PRESIDING MEMBER PERNELL: -- there
7 could only be a positive effect there, so I'm
8 certainly willing to do that.

9 MR. PENNINGTON: Just my comment real
10 quickly. We have heard before the idea of a
11 credit for residential lighting that would go into
12 effect as kind of transition between the adoption
13 date and the effective date. And then actually
14 would not be there, of course, after the effective
15 date. That seems like a very plausible thing to
16 do, and we certainly want to encourage the
17 lighting changes.

18 The proposal on credit for high quality
19 insulation is one that we hadn't heard before.
20 But we're really glad to hear that their support
21 for this approach. And we think the approach is a
22 very important part of this standard. So trying
23 to encourage early compliance with that would be
24 good, in our opinion.

25 We need to find out more about what is

1 viewed as not being clear about the compressor
2 sizing. We certainly want that to be clear. So
3 that's what I would respond to at this point.

4 PRESIDING MEMBER PERNELL: Okay, so it
5 sounds like, and we've always had a willingness to
6 work with everyone, but we do have some time to
7 certainly meet and work to clear up some of these
8 issues.

9 MR. RAYMER: Getting the early
10 compliance allows our educational efforts to -- it
11 really enhances both of it. It's very positive.
12 And it helps the transition. The transition to
13 AB-970, we had a lot of angst at the beginning
14 when the legislation got passed, but when the
15 rates were finally taking effect it ran very well,
16 oddly enough. And it was because of the
17 educational effort and the ability to get our
18 hands on this early on.

19 PRESIDING MEMBER PERNELL: Well, we
20 certainly want to replicate that experience.

21 MR. HODGSON: If I could add one more
22 comment, Commissioner Pernell, and it's not really
23 relative to the new construction but the -- Bill
24 brought up that the residential kitchen lighting
25 and alteration section.

1 I would really recommend strongly that
2 you inform local chapters of NARI, which is the
3 remodelers councils, about this. The number one
4 dollar volume of retrofit is kitchen remodeling.
5 One of the highest issues in kitchen remodeling is
6 lighting. And you're going to be impacting that
7 significantly.

8 And I think you need to let that group
9 who is going to be installing those fixtures aware
10 of that. And that's not us. That's NARI or one
11 of the remodelers councils. And, again, we'd be
12 happy to help you get in contact with those folks.

13 PRESIDING MEMBER PERNELL: All right,
14 thank you.

15 MR. HODGSON: You're welcome.

16 MS. SHAPIRO: Same topic. Charles.
17 Charles Erlich, would you like to --

18 MR. ERLICH: I'll pass.

19 MS. SHAPIRO: You'll pass?

20 MR. ERLICH: I'll pass.

21 MS. SHAPIRO: Okay, I like that kind.

22 Pat, Patrick Splitt, and would you talk to us
23 about your heated slab floor comments.

24 MR. SPLITT: Pat Splitt from AppTech.

25 In the standards section 118 there's a section on

1 insulation requirements for heated slab floors;
2 that basically refers to its chart for slab edge
3 insulation and some requirements to keep termites
4 from getting into the house.

5 But you also, in the definition section,
6 at the head of the standards where you define
7 terms, you changed the definition of heated slab
8 floor to say heated slab floor is a concrete slab
9 floor or a light weight concrete topping slab laid
10 over a raised floor.

11 Well, none of these requirements have
12 anything to do with that type of floor, so I think
13 that should be taken out of the definition. The
14 requirements are all for slab-on-grade. It
15 doesn't say anything about what you should do
16 about a concrete topping over a raised floor.

17 PRESIDING MEMBER PERNELL: Okay.

18 MS. SHAPIRO: Thank you.

19 PRESIDING MEMBER PERNELL: Well, I
20 understand, but, Mr. Pennington, you understand
21 what his comments are?

22 MR. PENNINGTON: Yeah.

23 PRESIDING MEMBER PERNELL: Okay. Thank
24 you.

25 MS. SHAPIRO: Noah Horowitz. Overall

1 comments, please, Noah, on res.

2 MR. HOROWITZ: I'm Noah Horowitz with
3 NRDC, the Natural Resources Defense Council.
4 We're an environmental advocacy group with over
5 500,000 members nationally, and over 100,000 in
6 California. We've been an active participant in
7 this and the prior Title 24 and 20 proceedings.

8 We're here today to express our very
9 strong support for the proposed 45-day language.
10 We believe the standards provide very cost
11 effective energy savings that will yield
12 significant environmental benefits and cost
13 savings to both California building owners and the
14 residents.

15 To put this into context using some of
16 the numbers provided by the CEC, over three years
17 we'll see demand savings greater than 500
18 megawatts. So after three years we'll get the
19 equivalent of a decent sized power plant without
20 any of the resulting emissions. And that's quite
21 significant. We applaud that.

22 A few points we want to highlight in
23 particular. We're very pleased with the changes
24 that are going to be made to the residential
25 lighting section. We felt that these were not as

1 good as they could have been in the past, and
2 we're a participant in these discussions and we
3 think we came out with a good compromise here.

4 Looking at some of the numbers, this is
5 going to provide one of the single largest savings
6 in this proceeding over 500 kWh per year per home.

7 The lighting changes as proposed also
8 will provide a lot of flexibility of the builders.
9 They can either buy the efficient fixture and
10 install that, or in other cases simply put in the
11 controls. And we feel this is a good place, where
12 we landed.

13 It will also give a lot of strength to
14 the market for efficient fixtures and controls.
15 And we think we'll see more products and over time
16 prices will come down.

17 Some of the discussion that I think
18 you'll hear possibly from other speakers is on the
19 question of the electronic ballasts and how far
20 does that go down. As proposed it's for fixtures
21 18 watts and greater.

22 There are a lot of recessed cans out
23 there around the 13 watt size that use magnetic
24 ballasts. Those are much lower in cost and
25 sometimes they tend to blink at the beginning or

1 have a delayed start time. Many consumers don't
2 like that and we might be unintentionally seeing a
3 lot more of those go in due to the low cost.

4 So if the staff can consider bringing
5 down the requirement for electronic ballasts to
6 lower than 13 watts, or simply adopt what's in
7 EnergyStar that says you need a one second start
8 time. And that way you can be agnostic and not
9 have to specify magnetic or electronic ballasts.

10 We're also very pleased to see the
11 language for replacements and alterations. This
12 will bring a lot more savings that the standards
13 don't currently touch. It will help bring a level
14 playing field from an energy perspective for
15 existing and new buildings.

16 In closing we want to commend all the
17 parties for the high level of dialogue that's
18 happened, not only in these hearings but the
19 myriad conference calls, meetings and emails that
20 occurred over the time.

21 And as indicated so far there seems to
22 be very strong consensus which is a testament to
23 the whole process.

24 Also want to personally recognize the
25 expertise and effort of the CEC Staff and their

1 consultants; and also to highlight the great
2 support that the utilities, the California
3 utilities, provided due to funding and work and
4 the great work of their consultants.

5 This has been a long road and Bill
6 Pennington has a beard now. At the beginning he
7 just had some great sideburns.

8 (Laughter.)

9 MR. HOROWITZ: I wouldn't be doing my
10 job if I didn't indicate some of the things that
11 aren't in here and we recognize their time
12 constraints and cost factors. The multifamily
13 language, while some good improvements have been
14 made, given more time I think there'd be a greater
15 overhaul of that section, giving the infilling
16 we're seeing and more and more construction of
17 multifamily buildings.

18 And hopefully this is a commercial for
19 the next proceeding to do the planning so we can
20 achieve that next time.

21 That concludes my comments.

22 PRESIDING MEMBER PERNELL: Thank you.
23 Questions? All right, thank you.

24 MS. SHAPIRO: Mr. Nittler, talking about
25 enforcement agency requirements for field

1 verification.

2 MR. NITTLER: Yes, thank you. Ken
3 Nittler with Enercomp. Good morning, again. I
4 perhaps should have done this under the general
5 section but I was stunned by the testimony of our
6 friends from ARI and GAMA, trying to keep
7 Californians from being allowed to use something
8 like the EER that is the appropriate efficiency
9 specifier saddens me greatly.

10 What I want to talk about right now is
11 just a real brief little thing. It's in section
12 10-103(e)(2). There's a section on enforcement
13 agency requirements. And one of the progression
14 of things in the last two building code cycles has
15 been that we're adding these HERS verification and
16 diagnostic features.

17 And I don't think that the language in
18 the scoping section up front really kept up to
19 date with that. For instance, for the nonres we
20 added a section 10-103(b) that very explicitly
21 says what's required to -- it's called
22 nonresidential acceptance in that case.

23 So I want to propose that to strengthen
24 the link between the fact that HERS verification
25 is part of the compliance process, I want to

1 propose some language to be added to the
2 enforcement agency requirements on the inspection
3 side that reads as follows:

4 For low rise residential dwelling units
5 that have used a compliance alternative that
6 requires field verification and diagnostic
7 testing, the building department shall not approve
8 a dwelling unit for occupancy until the building
9 department has received a certificate of field
10 verification and diagnostic testing that has been
11 signed and dated by the HERS rater.

12 PRESIDING MEMBER PERNELL: Do you have
13 that in written form somewhere?

14 MR. NITTLER: Yes, I will, and I'll
15 provide it to staff.

16 Basically it's just to kind of close the
17 loop so that it's clear, explicitly clear on our
18 standard that that's something the inspection
19 process should be doing.

20 One other brief comment, if I could. In
21 regards to turning some of the stuff that's
22 proposed in our standard into a credit, as
23 suggested by CBIA, especially the lighting one. I
24 just want to point out that the lighting in the
25 2005 standard is a mandatory measure. It's not a

1 feature you get to trade off against other
2 building components.

3 So it's a little bit confusing to me how
4 you propose it as a credit in the current standard
5 because that means some other feature in our
6 standard for it to be a credit, sort of by
7 definition you'd trade it off against some other
8 feature that's currently required.

9 And I would propose that's kind of a
10 slippery slope, even though the idea of getting
11 the building industry to move early is a good
12 idea, how you propose it as a credit seems kind of
13 tricky to me.

14 Thank you.

15 MS. SHAPIRO: Thank you.

16 PRESIDING MEMBER PERNELL: All right,
17 thank you. You want to comment on the previous
18 speaker?

19 MR. HOROWITZ: Yes.

20 PRESIDING MEMBER PERNELL: Come forward,
21 please.

22 MR. HOROWITZ: Thanks. Noah Horowitz,
23 NRDC. In terms of how do we get these efficient
24 fixtures into kitchens sooner, one avenue that's
25 beyond the scope of this hearing but more dialogue

1 should occur is the investor-owned utilities in
2 California and some of the municipal utilities
3 offer rebates in their new construction program.
4 And that could be a way to get this credit and
5 jump-start the whole market there.

6 PRESIDING MEMBER PERNELL: Okay.

7 MS. SHAPIRO: Thank you, Noah. Patrick,
8 do you want to come up and talk about HERS
9 provider notification?

10 MR. SPLITT: Sure.

11 MS. SHAPIRO: Thank you.

12 MR. SPLITT: Pat Splitt from AppTech,
13 again. We're energy consultants and I'm concerned
14 about this change that I see the res ACM 7.4
15 requiring HERS provider notification, which seems
16 to apply if I would do it, which I'm not going to
17 do, that somehow after we --

18 PRESIDING MEMBER PERNELL: Are you a
19 HERS rater?

20 MR. SPLITT: No, I'm not a HERS rater.
21 But I do energy compliance. And this says that
22 after I do my compliance documentation I'm also
23 supposed to notify a HERS rater that this is done,
24 a HERS provider, whoever.

25 And that basically the permit is not

1 supposed to be issued until that's done. I mean
2 it's not my job to do that. It's the builder is
3 the one who has to arrange for the HERS provider.

4 And once there's more than one HERS
5 provider, which I'm sure there will be, do I have
6 to provide them all? Or can I wait and see who
7 offers me the most money to get tipped off on who
8 needs this stuff?

9 And what does the provider do with this?
10 He doesn't have to do anything with it. So what's
11 the point of requiring me to provide all this
12 paperwork to this guy when he has nothing to do
13 with it. He's going to put it in a pile
14 someplace; he's going to put it in the shredder.
15 Hopefully he'll recycle it.

16 But he doesn't have to do anything with
17 it, so why do I have to provide it. And it just
18 doesn't make any sense.

19 PRESIDING MEMBER PERNELL: Mr.
20 Pennington, you want to comment on that?

21 MR. PENNINGTON: Yeah. It certainly
22 makes sense.

23 (Laughter.)

24 MR. PENNINGTON: And I would hope that
25 you would comply, Pat, if you're obligated to

1 comply. But maybe not.

2 It's very important to get notification
3 to the HERS provider at the earliest possible
4 point in the process that fuel verification is
5 associated with compliance for a particular
6 building. We really need to do that in order to
7 avoid problems at, you know, down the line at
8 closing of the building, to make sure that this
9 all gets done.

10 I mean there's some steps here that have
11 to be gone through. There has to be coordination
12 with the scheduling of the construction process.
13 And early notification is --

14 MR. SPLITT: But having me do that
15 doesn't do that. If it has to be done it should
16 be either the permit applicant --

17 PRESIDING MEMBER PERNELL: All right,
18 all right. Excuse me. Let Mr. Pennington finish
19 and I'll give you time to rebut.

20 MR. PENNINGTON: So this is a very easy
21 thing to do. It's simple. It only needs to take
22 a phone call. And a statement that you did it.
23 And, you know, it will take a minute to do.

24 So, you know, this is not an onerous
25 thing by any means.

1 MR. SPLITT: But it's --

2 MR. PENNINGTON: But it's helping the
3 system --

4 MR. SPLITT: No, it doesn't.

5 MR. PENNINGTON: -- dramatically, and --

6 MR. SPLITT: No, it doesn't.

7 MR. PENNINGTON: -- what would happen is
8 that the HERS provider will take that information
9 and will act on that. And will be notified that
10 field verification is necessary. And will make
11 sure that raters are available to the builder and
12 so forth.

13 And so we're trying to overcome a little
14 transition problem here where this notification
15 stuff is not happening very well.

16 MR. SPLITT: But it should be the
17 requirement then of the builder -- if you're
18 trying to close this loop so that they know they
19 have to do this, having me independently send a
20 piece of paper to the provider that doesn't close
21 the loop. That doesn't make the building owner
22 know that he has to do this. That doesn't put the
23 builder on notice that he has to call this guy up.

24 You're just assuming that somebody's
25 going to do something with this. If you want to

1 close the loop then the person on the one hand
2 who's responsible for the building is the guy that
3 should be required to send the form, so now he
4 knows he's required to do it. And the provider
5 knows it.

6 If you have me do it the loop isn't
7 closed. It's just a waste. I mean if you're
8 trying to close the loop then you have to have the
9 person who's responsible for constructing the
10 building send that form, so he knows he's required
11 to do this. That'll close the loop.

12 Having me just send a piece of paper to
13 somebody doesn't do anything.

14 MR. PENNINGTON: No, you don't have to
15 send a piece of paper to someone. You have to
16 notify the provider and you have to sign the CF1R
17 if you did that. And that's all you have to do.

18 MR. SPLITT: But it's not solving the
19 problem. If you want to solve the problem you
20 have to have the person who's responsible for the
21 construction of the building do that. That'll
22 solve the problem you described.

23 MR. PENNINGTON: Well, --

24 MR. SPLITT: I mean wouldn't it be
25 better to do that? Why not?

1 MS. SHAPIRO: Pat, are you saying that
2 the person who's going to hire the HERS provider
3 is who should be doing the contact?

4 MR. SPLITT: Right, because he's saying
5 that the loop doesn't get closed because the
6 people building the building don't know about it.
7 But having me send something to the provider
8 doesn't inform them.

9 If they're required to do this, send a
10 notice off before the building official will
11 approve their application, then the loop's closed.
12 The problem is solved.

13 I mean if there's a problem, you solve
14 the problem. That's all I'm saying.

15 PRESIDING MEMBER PERNELL: All right.
16 Thank you for your comments.

17 MS. SHAPIRO: Wait, Pat, don't sit down
18 because I'm going to let you talk right now about
19 the exception for ductless systems in the
20 prescriptive compliance. New topic.

21 MR. SPLITT: Okay. Take a breath.

22 (Laughter.)

23 MR. ELEY: -- get him all riled up.

24 PRESIDING MEMBER PERNELL: On the
25 previous one, though, the Committee has --

1 UNIDENTIFIED SPEAKER: No, that's
2 normal.

3 (Laughter.)

4 MS. SHAPIRO: All right. Pat, if you
5 don't want to talk now we can put you --

6 MR. SPLITT: No, it's okay, this is
7 quick.

8 MS. SHAPIRO: Okay.

9 PRESIDING MEMBER PERNELL: Pat, just to
10 let you know on the previous question, though, the
11 Committee has heard you and your concerns, and we
12 will take that under advisement. And so I don't
13 want you to leave feeling like it's --

14 MR. SPLITT: No, I know. Been here
15 before.

16 (Laughter.)

17 MR. SPLITT: Okay, on this item it has
18 to do with the residential alternative component
19 packages; there's a column for where the duct
20 sealing is required. And then there are also some
21 exceptions or alternatives you can do if you want
22 to use the prescriptive method and not seal the
23 ducts.

24 And the change that I proposed basically
25 has to do with -- these are basically low income

1 housing where they're probably just putting in a
2 wall furnace and there is no duct work.

3 In that instance I want them to be able
4 to use the package and just define the fact that
5 well, if reducing duct leakage is good and you
6 don't have to provide an alternative, then
7 eliminating duct leakage has to be better.

8 So, therefore if you are installing this
9 system that doesn't have ducts, you can still use
10 the package. You don't have to put in a system
11 with ducts just so you can reduce the leakage.

12 And the reason I bring this up is I've
13 had some interpretations currently from the help
14 desk where they say, well, if you don't have a
15 system with ducts you can't use the prescriptive,
16 you have to go performance. And that's crazy.

17 PRESIDING MEMBER PERNELL: Are you
18 talking about apartments, when you say putting in
19 a wall unit or are you talking about single family
20 homes?

21 MR. SPLITT: Or small homes. Small
22 homes.

23 PRESIDING MEMBER PERNELL: And you put
24 in one wall unit for the whole house?

25 MR. SPLITT: Or maybe multiple, maybe

1 one per floor. But I'm from Santa Cruz, so we've
2 got a lot of farmworkers; their first house may be
3 no bigger than a lot of our garages. And they
4 don't need ducts. It's a mild climate. We don't
5 have air conditioning requirements. So they
6 should be able to use the package, and the fact
7 that they don't have ducts shouldn't prevent them
8 from doing it.

9 MR. ELEY: Well, I don't think the
10 standards say that. In fact, the manual, the AB-
11 970 manual makes it real clear that if you don't
12 have ducts you don't have to seal them.

13 (Laughter.)

14 MR. ELEY: Or if you don't have an air
15 conditioner you don't have to check the
16 refrigerant charge, you know.

17 MR. SPLITT: Right, well, I have had
18 this interpretation from the help line people.

19 MR. ELEY: Really?

20 MR. SPLITT: Yeah.

21 MR. ELEY: Well, the manual made it real
22 clear in 2001. I guess we could try doing it
23 again, but --

24 MR. SPLITT: So anyway right now it's a
25 problem. So I just wanted to clear that up.

1 PRESIDING MEMBER PERNELL: All right, I
2 think we got that one clear. Do you want to speak
3 to the previous speakers?

4 MR. HODGSON: Actually I wanted to go
5 back two speakers, if I may.

6 (Laughter.)

7 MR. HODGSON: Real quickly.

8 PRESIDING MEMBER PERNELL: All right.

9 MR. HODGSON: Thank you. Mike Hodgson,
10 CBIA, and welcome back, Pat.

11 (Laughter.)

12 MR. HODGSON: Noah's point is a very
13 good one, and I wanted to support the idea --

14 PRESIDING MEMBER PERNELL: This is the
15 point on the lighting --

16 MR. HODGSON: Yes, and --

17 PRESIDING MEMBER PERNELL: -- for early
18 compliance?

19 MR. HODGSON: Right, for early adoption.
20 The investor-owned utilities have 2003 programs
21 for residential new construction in place today.
22 None of those include incentives for residential
23 lighting. They are currently undergoing a new
24 enrollment or bid or proposal process that will
25 be -- is due in the third week of September.

1 So, odds are since these are tens of
2 millions of dollars of proposals coming in they're
3 probably fairly well written and understood.

4 So, if the Energy Commission and CBIA
5 would like to encourage utilities to go after a
6 residential new construction lighting incentive,
7 we have a very short period of time to do that.
8 So I'm just encouraging that if that's a good
9 idea, which we strongly support, then we need to
10 do that very very quickly.

11 PRESIDING MEMBER PERNELL: Okay. Thank
12 you.

13 MS. SHAPIRO: We have one more who wants
14 to speak on this issue.

15 PRESIDING MEMBER PERNELL: Oh, yes,
16 please step forward.

17 MS. BRUCERI: My name's Misti Bruceri;
18 I'm with PG&E. And I'd also like to comment on
19 the residential lighting standards.

20 I also support early adoption for all
21 the builders and some of the efforts to make that
22 happen. I can't speak for the residential new
23 construction program because I'm not directly
24 involved. So, I think that both speakers have
25 made some good suggestions there, but I don't know

1 if those are included in the plans at this time.

2 I also agree with Ken Nittler that
3 providing a credit for something that's a
4 mandatory measure is a very slippery slope. But I
5 think that you could do that provided that you
6 make sure that the net benefit, that there's a net
7 energy benefit. That the improvements that are
8 made by going to the new standards outweigh the
9 credit you provide. So that you still get a
10 benefit, and you also get a motivation for early
11 compliance.

12 Thanks.

13 PRESIDING MEMBER PERNELL: Thank you.
14 Same topic?

15 MR. HAMILTON: Concerning Pat's
16 comments.

17 PRESIDING MEMBER PERNELL: Please step
18 forward.

19 MR. HAMILTON: I'll make it quick. Tom
20 Hamilton with CHEERS; we're a HERS provider.
21 Concerning the quality installation of insulation
22 early adoption, that could be done, from our
23 perspective, in supporting of the CBIA's concept.
24 It's a matter of training. And we would do it in-
25 field training.

1 Concerning the provider notification it
2 closes the loop to the extent that when a Title 24
3 consultant models the home, they're doing it on
4 behalf of their client who could be the builder or
5 the architect.

6 In some cases it gets lost in that loop
7 when it filters back ultimately to the plan check
8 agency for the building department.

9 Notifying us of three or four pieces of
10 information simply allows us to put it in a
11 database, and then once it goes for permit that it
12 can be given to a rater for contacting that
13 builder. And how we allocate or assign projects
14 to builders is a board-approved procedure that
15 we've adopted internally.

16 As far as the information coming to us,
17 it can come via phone, fax, email, in the
18 database; a variety of ways. And it takes a few
19 minutes, so that would --

20 PRESIDING MEMBER PERNELL: I think the
21 question is who provides that information to you.

22 MR. HAMILTON: Currently it would be the
23 Title 24 consultants, since they're the ones that
24 are recommending the measures that are going to be
25 installed in the home for compliance to Title 24.

1 So they're the ones that decide to use
2 insulation tight ducts, whatever it may be, for
3 that home to be compliant because they have the
4 expertise and the responsibility, using the
5 compliance software that they would simply send us
6 the three or four pieces of information.

7 PRESIDING MEMBER PERNELL: Okay.

8 MR. HAMILTON: So that's how the process
9 would work.

10 PRESIDING MEMBER PERNELL: All right.

11 MR. HAMILTON: Thank you.

12 PRESIDING MEMBER PERNELL: Mr. Day. On
13 this topic?

14 MR. DAY: Yes. Michael Day, Rockwood
15 Consulting, representing Beutler. Beutler does
16 well in excess of 1000 Title 24 documentations a
17 year for their various customers. And a few
18 minutes here and a few minutes there actually
19 starts adding up to a fairly significant amount of
20 time, especially when, because of the very
21 diligent efforts at making sure that HERS rater
22 options are now coming to the light of building
23 officials and inspectors, if the builder doesn't
24 get it signed off, he can't have the people move
25 into the house.

1 That seems to be a pretty ultimate
2 hammer as opposed to adding another layer of
3 notification that ends up, you know, perhaps
4 getting CHEERS their database a little bit early.
5 The real benefit is to the builder; he has to have
6 it done or else the house isn't getting moved into
7 and he doesn't get his money back.

8 That seems a lot more reliable way of
9 getting it in. He certainly has the incentive, as
10 opposed to just adding another burden to the
11 people who are doing the energy compliance.

12 PRESIDING MEMBER PERNELL: Your
13 suggestion is to have the builder --

14 MR. DAY: As it currently works, --

15 PRESIDING MEMBER PERNELL: -- present
16 the information?

17 MR. DAY: -- the builder, who is
18 building a home that has HERS-required options is
19 required to find a HERS rater. Be that Mr.
20 Hodgson's company, be that somebody else along the
21 way. They have to engage a company to come out
22 and be their third-party rater.

23 That third-party rater at the conclusion
24 of it has to take the completed paperwork and make
25 sure that it gets entered into the CHEERS database

1 at the conclusion of it. That also, that
2 paperwork needs to be presented in order for a
3 final certificate of occupancy to be issued so
4 that Jim and Jane Homeowner can move into the
5 house and the builder can get his money back to go
6 build the next house.

7 That's the real hammer. Having CHEERS
8 notified that somebody has chosen a third-party
9 option ahead of time, it's a great heads-up, but
10 what is the additional utility, I guess, to the
11 State of California, and to everyone, of imposing
12 that burden on the people who are doing the rating
13 services compared with the absolute necessity of a
14 builder to actually have the third-party work
15 done, certified and submitted in order for them to
16 get their final certificate of occupancy.

17 PRESIDING MEMBER PERNELL: Okay.

18 MS. SHAPIRO: Anybody else on that?
19 Okay, two more. Nehemiah, you come up. Who else
20 wants to talk?

21 PRESIDING MEMBER PERNELL: Why don't we
22 just line up and we can --

23 MS. SHAPIRO: Anyone else want to talk
24 about this only? Okay, you'll be after Nehemiah.

25 MR. STONE: I'll just make mine real

1 quick. Nehemiah Stone, Heschong Mahone Group. We
2 are the administrators for Edison's multifamily
3 new construction program. And as such, we have to
4 submit the data on buildings into the CHEERS
5 registry and for small multifamily projects it
6 takes us about 10 or 15 minutes.

7 And it sounds like what is being asked
8 for here is even less than that. I fail to see
9 that this is really much of a burden for energy
10 consultants.

11 PRESIDING MEMBER PERNELL: All right.
12 Thank you.

13 MR. CHAPMAN: Good morning.

14 PRESIDING MEMBER PERNELL: Good morning.

15 MR. CHAPMAN: Jeff Chapman with
16 California Living and Energy. I'm the Design
17 Manager. Speaking to the issue of registering
18 with CHEERS, I would urge you to consider that be
19 the first step taken by the Title 24 analysts,
20 because there are subdivisions in this state where
21 Title 24 HERS rater compliance testing was in the
22 Title 24 documents and was not accomplished. It
23 was not carried out.

24 Secondly, I do seminars throughout the
25 state with building departments, enjoy their

1 company, talking with field inspectors and plan
2 checkers. And I would affirm what Mr. Nittler
3 suggested, because too often, not in huge numbers,
4 but too often I get a phone call. We have people
5 in these houses; you've been notifying us about
6 the testing needing to be done; now what do we do.

7 So immediately I call the city and I
8 say, why didn't you ask for the CF4R. And too
9 often they'll tell me that's none of our business.
10 So the tighter we make it the likelihood of not
11 having to go in and test homes with homeowners in
12 the houses, and the likelihood of what Michael
13 said about the builder getting everything back,
14 will actually happen. And no subdivisions will be
15 missed.

16 Thank you for the time.

17 PRESIDING MEMBER PERNELL: Thank you.

18 MS. SHAPIRO: Jeff, are you going to
19 want to talk again, or was --

20 MR. CHAPMAN: I don't think so.

21 (Laughter.)

22 PRESIDING MEMBER PERNELL: All right,

23 I --

24 MS. SHAPIRO: I know you filled out a
25 card on another topic.

1 PRESIDING MEMBER PERNELL: I think we've
2 exhausted this issue, unless there's someone else
3 who wants to speak to it. All right.

4 MS. SHAPIRO: Well, we're going to move
5 on to ducts. We started a little bit with Pat,
6 but, Steve Yurek, why don't you come up and say
7 something about your opinion about ducts, duct
8 sealing.

9 MR. YUREK: Steve Yurek with ARI. Thank
10 you. First of all, I want to start off and say
11 that ARI is supportive of sealing ducts. We are
12 also supportive of the right sizing of HVAC
13 equipment.

14 However, as it relates to sealing ducts
15 we are concerned, as we expressed in prior written
16 comments prior to the 45-day language, the tying
17 of duct sealing to the installation of HVAC
18 systems or air conditioners.

19 Particularly the concern is that the
20 cost of duct sealing is substantial in a lot of
21 these situations. And when you start tying that
22 in with the replacement of an air conditioner, you
23 add that cost. The consumer's going to look at
24 that, and they might decide, instead of replacing
25 that air conditioner, that they're going to repair

1 it, fix it and keep in that, you know, 6, 8 SEER
2 air conditioner rather than replacing it with a
3 higher efficiency conditioner.

4 If duct sealing is a good thing our
5 position is then duct sealing should be required
6 no matter, and not tie it to the replacement of
7 the AC system. And that replacement of AC should
8 just sit on its own and suffer from the
9 requirements of having duct sealing occur.

10 Because we're afraid that they won't
11 replace the system, they'll just repair.

12 MS. SHAPIRO: I don't understand what
13 you mean. You think we should just make everybody
14 in the state have their ducts sealed --

15 MR. YUREK: If it's a requirement
16 whenever there's an alteration or anything else to
17 a building. Right now it's tied to when they
18 replace the AC.

19 If duct sealing is a good thing it
20 should be required whenever there's an alteration
21 to a building, rather than tying it directly to --

22 MS. SHAPIRO: If somebody was changing
23 out their kitchen lights they should have to get
24 their ducts sealed?

25 MR. YUREK: If it's a good thing, they

1 should be replacing the -- you know, --

2 MS. SHAPIRO: Okay, I just wanted to
3 understand what you were saying.

4 PRESIDING MEMBER PERNELL: I have a
5 question on this. If a consumer were to change
6 out their A/C, do you think that they would know
7 whether or not their ducts were leaking? Unless
8 someone checked that? I mean, how would they
9 know?

10 MR. YUREK: I believe every duct that's
11 in place currently in California is leaking.

12 (Laughter.)

13 PRESIDING MEMBER PERNELL: I won't argue
14 with you on that. But, I mean, I'm a consumer who
15 is, you know, interested in efficiency and I want
16 to get a new unit. I wouldn't normally know to
17 the extent my ducts are leaking unless someone
18 checked it.

19 And your suggestion is that they not do
20 that. They just put in the product.

21 MR. YUREK: But our concern is that if
22 they're going to replace the air conditioner they
23 should replace the air conditioner and put in the
24 higher efficiency. It shouldn't be tied to the
25 sealing of the ducts in that house.

1 Because otherwise, once you start doing
2 that, and then a \$1000 cost or whatever it is for
3 sealing the ducts, they're going to weigh that in
4 to replacing that air conditioner, you know, and
5 having it repaired.

6 Because if they repair it they're not
7 going to be required to seal their ducts.

8 PRESIDING MEMBER PERNELL: Yes,
9 Commissioner.

10 COMMISSIONER ROSENFELD: This is a very
11 interesting suggestion. I'd like to ask staff
12 what the heck they think about it.

13 MR. PENNINGTON: Well, I mean -- a
14 couple of things. The purpose of getting the
15 ducts sealed is getting a HVAC system that works
16 at the time of alteration. And so you're altering
17 that HVAC system by installing a new system, a new
18 unit. You really don't want to be hooking up a
19 new air conditioner to a grossly leaking duct
20 system.

21 I don't think the manufacturers want
22 that, actually. Because the expectations for
23 energy savings that come from that efficient air
24 conditioner is not going to be realized if you
25 hook that unit up to a leaky duct system.

1 So, you know, it behooves the
2 manufacturer to avoid callbacks or whatever to
3 have the HVAC system working well when the
4 installer walks away.

5 So that's one --

6 COMMISSIONER ROSENFELD: But, Bill, he's
7 not suggesting that you shouldn't do that. He's
8 saying something much stronger, which is that
9 whenever you have a major retrofit which requires
10 a permit, even if it's just your kitchen, --

11 MR. PENNINGTON: The way our standards
12 work is that when you alter something then that is
13 an opportunity to make it more energy efficient.

14 Our standards and no building codes
15 require something else to be fixed when you alter
16 something. I mean that's sort of a tenet of
17 building codes that you don't do that.

18 MR. YUREK: I guess then that kind of
19 question, why do you require any of that on HVAC
20 since the duct system, you know, is what carries
21 the air, but it's not related to the A/C system.
22 And, you know, I kind of challenge you. Your
23 argument that putting in, replacing a 6 SEER with
24 a 12 SEER, even with leaky ducts is much more
25 energy efficient than keeping the 6 SEER in there

1 with leaky ducts.

2 MR. PENNINGTON: I got it, that's true.

3 MR. YUREK: I disagree with you, how can
4 you run a system that is, you know, it's 6 SEER
5 running all the time, versus a 12 SEER that's
6 going to be much more energy efficient even with
7 leaky ducts.

8 MR. PENNINGTON: So it might perform as
9 a 7 instead of a 6.

10 MR. YUREK: But it's still better than a
11 6 in replacing that system.

12 MR. PENNINGTON: Basically what we're
13 saying here is that you're altering the HVAC
14 system at that point, and so it makes sense to
15 have that HVAC system improved by sealing ducts
16 that are almost guaranteed, as you say, to be
17 leaking.

18 The other point of it is that it's
19 substantially lower cost to get the ducts sealed
20 when you have the installer there. Also, the
21 installers are, because of their work on new
22 construction, are learning to do duct sealing, and
23 are obtaining the equipment and so forth, so they
24 have the capability to do it.

25 If you do the duct sealing at that point

1 you save all of the transaction costs of getting
2 the installer there, the travel costs and so
3 forth.

4 MR. YUREK: I again question your logic
5 on this one that the person installing the air
6 conditioning and heating system probably is not
7 the same person that will be sealing the ducts
8 since they are not the contractors that do that
9 type of work or have those type of systems. There
10 might be some that have that, but the majority of
11 the contractors are not going to be sealing ducts.
12 They'll be installing an A/C system; they'll be
13 installing a furnace and not the duct work or
14 sealing those ducts.

15 So it will require somebody else to come
16 in and to do that work.

17 MS. SHAPIRO: Are we okay?

18 PRESIDING MEMBER PERNELL: Do we have
19 anyone else?

20 MS. SHAPIRO: Just on duct sealing. Did
21 you put in a card?

22 MR. THOMAS: Yes, I did.

23 MS. SHAPIRO: Then I'll probably call
24 you. I just didn't realize it was duct sealing.
25 Come on up and introduce yourself.

1 MR. THOMAS: I'm Keith Thomas and I'm
2 the Technical Director for CASCO. And I also
3 represent the Air Diffusion Council, which is all
4 the flexible duct manufacturers.

5 Basically, --

6 MS. SHAPIRO: Keith, I did have you
7 next. I just want you to know.

8 MR. THOMAS: Oh, okay.

9 MS. SHAPIRO: I thought you were on
10 insulation.

11 MR. THOMAS: Yeah, that discussion was
12 on the insulation aspect.

13 MS. SHAPIRO: Okay.

14 MR. THOMAS: But specifically as far as
15 duct sealing is concerned, in running leak tests
16 on houses the air conditioning equipment also
17 leaks. So you can't single out the duct system as
18 being the culprit only. You've got to consider
19 the entire system. That's primarily what I was
20 going to say.

21 Just sounds like, you know, the air
22 conditioning equipment is the perfect unit and the
23 duct system is being singled out. That's the only
24 comment I had.

25 MS. SHAPIRO: Well, why don't you go on

1 and talk about R8 flex duct insulation while
2 you're up. I was going to call you next anyway.

3 MR. THOMAS: Okay, well, the comment I
4 had, it was just on Bruce's cost analysis with
5 regards t going from 4.2 to R8. And I was kind of
6 curious as to why a couple of Oregon contractors
7 were used instead of some California contractors
8 that also install R8, to get some feedback.

9 And I was just kind of curious as to the
10 one comment the guy had that it was virtually no
11 different as far as cost was concerned versus; and
12 then the next comment was in California the costs
13 would be substantially higher.

14 And so the two comments kind of
15 contradicted each other.

16 PRESIDING MEMBER PERNELL: All right,
17 can we get a response?

18 MR. WILCOX: Well, I think the situation
19 is that the information if highly contradictory,
20 and that's the situation we're operating in here.
21 That we had information from a number of people
22 that the cost was very low to insignificant; and
23 we had information from a number of other people,
24 including a large number of California
25 contractors, that the cost was very high, and in

1 fact maybe exorbitant.

2 And so I think the situation is one that
3 is an ongoing significant problem in trying to
4 innovate in the building industry, is that it's
5 very difficult to understand what the costs will
6 be until actually everyone is doing it that way.
7 Because the costs are highly sensitive to supply
8 channels and volume and what's the typical way
9 things are done.

10 One of the reasons for quoting the guys
11 from Oregon was that Oregon has had an R8 duct
12 prescriptive standard for many years. And that
13 is, in fact, how all the residential buildings are
14 built in Oregon.

15 And so we tried to get some information
16 from there because we thought that would be a
17 better sense of what a mature market cost might
18 be.

19 At the same time we were getting
20 information from people in California that the
21 cost would undoubtedly be much higher because of
22 all of the various aspects of that transition.

23 PRESIDING MEMBER PERNELL: Did we have
24 any California contractors that responded with an
25 insignificant cost?

1 MR. WILCOX: Well, Rick Chitwood, who's
2 actually a member of our consultant team, is a
3 small HVAC and insulation contractor. And that
4 was his decision. But he's the only one who said
5 it was insignificant.

6 PRESIDING MEMBER PERNELL: Okay.
7 Anything else?

8 MR. THOMAS: Yeah, just from the
9 manufacturing standpoint I think what we are
10 looking at is maybe instead of a leak from the 4.2
11 R factor, which really originated with the
12 flexible duct industry, whereas the uniform
13 mechanical code, in their chart, has a 2.1 minimum
14 R value, and has had for years. Especially on
15 fittings and plenums and that type of thing.

16 The 4.2, instead of leaping from a 4.2
17 to an 8, is to go to an R6 overall and use the R8
18 in those areas in the desert regions or the cold
19 areas, where it is critical for the additional
20 insulation, which we sell lots of R8 into those
21 markets. For example, the desert areas of Palm
22 Springs, Barstow, that type of thing.

23 Thank you.

24 PRESIDING MEMBER PERNELL: Bill.

25 MR. PENNINGTON: I don't understand your

1 comment. The proposal does have R8 in those areas
2 that you just mentioned --

3 MR. THOMAS: I understand that, Bill. I
4 understand that. I'm just saying rather than
5 divvy it up between a 4.2 and an R6 and an R8, is
6 go ahead and make it all R6 or R8 in those
7 critical areas, that's all. That's the only
8 comment that I have.

9 MR. WILCOX: So you're objecting to
10 leaving 4.2 in the three climate zones?

11 MR. THOMAS: It's basically if we're
12 going to make a step forward as far as energy
13 efficiency is concerned, you know, I think we have
14 no objection to standardizing on an R6 in all
15 those areas. That way you're not looking at
16 multiple inventories and that type of thing.
17 You're just crossing medium climate zone and not a
18 critical climate zone.

19 MS. SHAPIRO: Thank you.

20 MR. THOMAS: You're welcome.

21 PRESIDING MEMBER PERNELL: Mr. Day and
22 the gentleman next to you.

23 MR. DAY: Michael Day. One item note
24 that would go against my good friend from CASCO
25 would be that the new buried duct credit that is

1 coming in offers a lot of opportunity for getting
2 higher than 4.2 while using, as your base
3 material, the 4.2. You're basically getting a
4 4.6, maybe a 4.8 over your entire system,
5 sometimes even higher depending on the level of
6 insulation that the builder is willing to put in
7 or able to put into the attic.

8 That would be less cost effective if we
9 were to mandate R6 throughout the State of
10 California, as I believe that Mr. Thomas was
11 hoping that we could standardize our market.

12 So that although 4.2, itself, may see
13 decreased utility throughout the state, in terms
14 of the climate zones where it is, if it was simply
15 run in the traditional manner the opportunities
16 that are coming around because of the consensus
17 process that's developed the buried duct credit
18 has really opened up the world for R4.2.

19 Thank you.

20 PRESIDING MEMBER PERNELL: Thank you.

21 MR. PENNINGTON: I don't understand his
22 comment, either.

23 MS. SHAPIRO: Talk to him later.

24 MR. DAY: Okay, I'm one for two.

25 MR. PENNINGTON: So, Mike, what would

1 motivate someone to do buried ducts if the
2 requirement was R4.2?

3 MR. WILCOX: They're just going to use
4 R4.2 ducts and bury them.

5 MR. DAY: Use the R4.2 ducts and bury
6 them, and take on the additional costs that come
7 with the buried duct credit. But in return, end
8 up with a system that has a lower ability to
9 transfer heat into the air that's moving through
10 the system.

11 MR. PENNINGTON: Okay. It seems like
12 there would be less motivation to do that if there
13 wasn't a requirement to have a duct system that
14 was more highly insulated than R4.2.

15 MR. DAY: Well, everything competes
16 against everything else, whether the baseline is
17 4.2 and you're trying -- or the baseline is 6 and
18 you're trying to get there with R4.2 that's
19 buried. Or whether the baseline is 4.2 and those
20 ducts are competing against windows which are
21 competing against wall insulation, competing
22 against HVAC.

23 Everything ends up having to be cost
24 effective when you go to build the house, or yours
25 doesn't sell and the guy next door's does. I'm

1 just saying that with 4.2 still in the
2 marketplace, it's smaller; it's easier to get up
3 there; it's easier to snake through. And with
4 starting to use the buried duct credit, there
5 would be increased utility for it.

6 MR. PENNINGTON: R6 is a prescriptive
7 requirement, so I don't understand.

8 MR. WILCOX: The issue is just whether
9 or not R4.2 is still going to be in the product
10 stream and available. And CASCO is arguing get
11 rid of R4.2 by raising the minimum requirement to
12 6. And Michael was just saying 4.2 is going to be
13 there because they'll use it for buried ducts.
14 And also inside the conditioned envelope and so
15 forth.

16 PRESIDING MEMBER PERNELL: All right,
17 we're going to move forward. On this issue, yes,
18 sir.

19 MR. MULLEN: Could I actually move back
20 about one issue to the duct sealing which we
21 almost closed?

22 MS. SHAPIRO: Okay.

23 PRESIDING MEMBER PERNELL: Sure.

24 MR. MULLEN: Jim Mullen with Lennox
25 International, an air conditioning manufacturer;

1 member of ARI.

2 First I would like to support the
3 comments that Mr. Yurek made regarding a
4 separation of duct sealing and equipment change-
5 out. And that's really the primary position.

6 Secondly, though, I think there is a
7 major issue with the language as it's written.
8 And particularly the exemption for a condensing
9 unit changeout. I think the unintended
10 consequence is going to be that more condensing
11 units will be changed out on split systems, the
12 outdoor unit will be changed out, but the indoor
13 unit will not be changed out because of the
14 expense of changing the whole system has just gone
15 up substantially.

16 The down side of that is that you'll now
17 end up with efficient outdoor units matched with
18 inefficient indoor units, and the system
19 efficiency isn't going to be what you predicted.

20 And secondarily you may have some
21 operating consequences that result in early
22 equipment failure.

23 I don't know if I made that really
24 clear, but if you look at the way split systems
25 are efficiency rated, they're rated as a system.

1 You have both an indoor piece and an outdoor
2 piece, and together they give you an efficiency
3 rating. If you take only the outdoor piece of
4 that system, you don't necessarily get the 10 SEER
5 or the 12 SEER if you have some other indoor piece
6 that it's not matched with.

7 If you exempt the condensing unit change
8 out from the requirement -- excuse me, if you
9 change out the condensing unit the way the
10 requirements are written, you do not have to spend
11 the money to change the duct work.

12 So that is going to encourage people to
13 leave the indoor, the old indoor unit in place,
14 just change the condensing unit. I'm not sure if
15 I've quite made that point clear. I see some
16 blank faces. But --

17 MR. PENNINGTON: Well, we just don't
18 agree necessarily, but I think you've made it
19 clear.

20 MR. MULLEN: Okay, now --

21 MR. PENNINGTON: You said it would
22 affect the operating performance?

23 MR. MULLEN: Most certainly.

24 MR. PENNINGTON: Or the -- I'm not sure
25 I understand that -- if you're talking about the

1 efficiency of matching units, that's clear. But
2 is there something else that you're talking about
3 here?

4 MR. MULLEN: Certainly. Two conditions
5 that I will give you that certainly impact
6 operation. One, if you look at a lot of the old
7 indoor coils, they had capillary tube restrictors
8 in them. And those restrictors are designed to
9 meet a properly between a high pressure and a
10 certain evaporating pressure.

11 The newer condensing units probably run
12 a lower high side pressure. To make the capillary
13 tube work properly in a lot of cases you have to
14 over-charge the condensing unit, which results in
15 more charge than was anticipated in the system.

16 Second example is that I think you'll
17 find all major heat pump manufacturers specify
18 very succinctly that you have to use matched parts
19 on heat pumps because in addition to making two
20 sets of restrictors work, because both coils
21 function as evaporator at some point in time, you
22 also have to worry about the total volume in each
23 one of those coils and each part of the system.

24 And in some cases you'll find heat pumps
25 that actually have charged compensators built in

1 them where you don't have an adequate volume ratio
2 between the two pieces.

3 MR. PENNINGTON: Thanks.

4 PRESIDING MEMBER PERNELL: All right,
5 thank you.

6 MR. WILCOX: So, Jim, could I ask you
7 what you think we ought to do to solve this
8 problem?

9 MR. MULLEN: Take ARI's suggestion would
10 be the first choice, actually. But the second
11 one, and I don't have a better one, is to remove
12 the condensing unit change-out only exemption in
13 order to make sure that you get the efficiency out
14 of the system and a reliability.

15 MS. SHAPIRO: Jim, don't even sit down
16 because you have another card to talk about
17 certification -- factory installed economizers
18 versus certification requirements for the
19 manufacturers.

20 Could you just --

21 MR. MULLEN: I'm sure this has never
22 happened in California before, but I am guilty of
23 filling out the wrong color form.

24 MS. SHAPIRO: Oh, I'll move it over to
25 the other pile.

1 MR. MULLEN: It should be in the
2 nonresidential.

3 PRESIDING MEMBER PERNELL: All right,
4 there's a number of people who want to speak to
5 this issue. So, first one to the mike.

6 MR. HODGSON: Just a quick bit of
7 information. Mike Hodgson, CBIA. The issue is on
8 R6 or 4.2 ducts and supply.

9 In the Las Vegas market which is a
10 fairly mature market, they had a requirement for
11 the 93 or 95 model energy code there for probably
12 the last dozen years. And it requires -- doesn't
13 require, but in the performance approach is R6.

14 And over half the market is 4.2. So,
15 just by changing the performance requirement, as
16 Bruce mentioned, we're not going to change the
17 supply of what we use. We're going to go to
18 what's cost effective, what's the best dollar for
19 the construction costs, et cetera.

20 So I really think the issue comes down
21 to what is cost effective, which we have a minor
22 disagreement over which zones that is. And stick
23 with that argument. And determine whether it's
24 4.2, 6 or 8.

25 PRESIDING MEMBER PERNELL: Thank you.

1 Next.

2 MS. SHAPIRO: Dave Ware, because you
3 have two cards you're going to talk about of them.
4 Duct R values and buried duct attics, please.

5 MR. WARE: David Ware representing Owens
6 Corning and the North American Insulation
7 Manufacturers Association.

8 I did have a card in regarding section
9 151, table 151C, alternative component package.
10 And my comment was on the R6 duct issue.

11 I think I want to basically support some
12 of the comments that Keith Thomas indicated. One
13 of the things that's indeed lost in the noise
14 related to the cost effectiveness or the installed
15 cost of R6 and R8 ducts is the simple fact that
16 ultimately whatever is required by the standards,
17 distributors of duct systems will have to stock
18 the product.

19 Certainly R6 and R8 is not a commodity
20 that represents a large inventory in distributors'
21 warehouses right now simply because there is no
22 motivation for that. There is no standards that
23 require that. So it's basically an upgrade and/or
24 a niche market that certain distributors like
25 CASCO might provide and use that to their

1 advantage.

2 So as a consequence, as time goes by,
3 and I think Bruce alluded to this, that we will
4 indeed see some leveling out of costs, and
5 certainly some lowering of costs simply by demand.

6 But it is unfortunate that 4.2 remains
7 in the proposed standards, because indeed, what's
8 lost in this analysis is that there is an
9 exorbitant amount of space which equates to dollar
10 cost that distributors will have to maintain in
11 their inventories for a 4.2 product which simply
12 the standards and the work that the consultants
13 have provided show that a higher duct R value, R6
14 or R8 certainly is cost effective.

15 I know that there has been arguments on
16 the other side from the builders that 4.2 ought to
17 remain in the standards, but I clearly think that
18 the national precedence that's already set for at
19 least an R8, if not an R6, and the other states
20 that have had an active energy code like Oregon,
21 Washington, Florida, New York, et cetera, that
22 have a very high R value compared to what
23 California has, is more support for maintaining an
24 R6.

25 However, I think that there ought to be

1 some consideration for the fact that maintaining a
2 4.2 simply is not worth it within the building
3 standards, and I recommend that some thought be
4 provided around that 4.2 in the future.

5 In response to Mr. Day's comments that
6 4.2 ought to remain in there because of buried
7 ducts, the buried duct credit would be useful as a
8 compliance tradeoff option, whether R6 is the
9 minimum level or R4.2. So I don't see that that
10 argument holds any merit.

11 Those are my comments regarding the R
12 value issue.

13 MS. SHAPIRO: How about buried ducts?

14 MR. WARE: Okay.

15 MS. SHAPIRO: Are you recommending
16 removing language?

17 MR. WARE: Yeah, I'm trying to figure
18 out where my notes are here. Thank you, Rosella.

19 MS. SHAPIRO: I could read you more if
20 you want to know.

21 MR. WARE: On the residential --

22 (Laughter.)

23 MR. WARE: I had it there, didn't I?

24 MS. SHAPIRO: You have it right here;
25 it's real easy to understand.

1 MR. WARE: In the proposed language
2 within the residential ACM manual, it includes the
3 credit for buried ducts, et cetera.

4 There is a departure in that procedure
5 from the draft proposal and the proposal that was
6 discussed at the workshop held here in Sacramento
7 and Steven Winters Associates Staff were there.

8 Basically in that proposal there were
9 three alternative levels of burying your duct, a
10 little bit, a medium level or fully buried.

11 What is proposed in the buried duct
12 pages 4.35 through 36 is language that implies --
13 language that states that you do this procedure
14 here and for fiberglass ducts you get an R25, and
15 for cellulose, for ducts buried in cellulose you
16 get an R value of 31.

17 Well, on page 36 of that ACM manual
18 there actually is a table that is a function of
19 the effective R value of the ducts is a function
20 of the duct size. And the R value changes.

21 So my suggestion is removing the
22 language that states that for fiberglass you get
23 R15, and for cellulose you get R31. It's
24 basically it's not that. It could be anything
25 based upon the table, which is a function of the

1 amount of insulation in the ceiling and the actual
2 duct size.

3 And the second issue that --

4 MR. PENNINGTON: Can you tell us exactly
5 where that is so I can find it. I don't need to
6 know that right now, but --

7 MS. SHAPIRO: It's table on page 36.

8 MR. WARE: Yeah, I'll provide you a
9 letter with that.

10 MS. SHAPIRO: You wrote it down here
11 that it was a table on page 36 of the --

12 MR. PENNINGTON: Well, there is no such
13 page like that in the --

14 MS. SHAPIRO: In the ACM manual?

15 MR. PENNINGTON: Right.

16 MR. WARE: Well, I took it whatever was
17 the pages off the website, so they may not
18 coincide with that.

19 MS. SHAPIRO: Oh, okay.

20 MR. PENNINGTON: So it's 4-36.

21 MR. WARE: 4-36.

22 MS. SHAPIRO: Oh, yeah, he said 4-36.

23 MR. WARE: Lost my train of thought
24 here.

25 MS. SHAPIRO: You made your point,

1 though, David.

2 MR. WARE: Thank you.

3 (Laughter.)

4 MR. WARE: I'll think of it.

5 MS. SHAPIRO: Dave, while you're --

6 PRESIDING MEMBER PERNELL: Are you done?

7 MS. SHAPIRO: I'm going to do all the

8 rest of his cards while he's --

9 PRESIDING MEMBER PERNELL: All of those

10 are Dave's cards?

11 MS. SHAPIRO: All these are Dave's

12 cards.

13 MR. WARE: Okay.

14 MS. SHAPIRO: Dave, you complied very

15 well with the one topic per card. Thank you so

16 much. Unlike other people who rolled in a number

17 of things.

18 So, Dave, I've got four more cards.

19 They're all on insulation. Let's get you, and we

20 can --

21 MR. WARE: Okay. Can you lead me along,

22 Rosella, please?

23 (Laughter.)

24 MS. SHAPIRO: How would you like to talk

25 about the appendix RH2 on voids, that you

1 recommend adding language for voids created when
2 blowing or spraying insulation into walls. And
3 ceiling and roof insulation, same thing.

4 And clarification of language for
5 covering IC rated recessed lights. And more stuff
6 about -- no, sorry, this is language stating
7 facing must be in contact with the underside of
8 floor sheathing.

9 Different topics, different cards; thank
10 you.

11 MR. WARE: Okay. Correct. The proposed
12 residential ACM appendix, again the page I took
13 off the website version, RH2, talks about, in this
14 section talks about the credit for high
15 performance installations.

16 There's language in here regarding voids
17 created primarily, the language talks about voids
18 created with fiberglass insulation. And the same
19 kinds of -- and the language implies that you
20 shouldn't have those voids, which is correct.

21 But the same language ought to be
22 associated with spray or blown wall systems, as
23 well, because you can still have voids in sprayed
24 systems, as well as you could have for poorly
25 installed batt systems.

1 In the same appendix on page RH2,
2 section RH3 raised floors and floors over garages
3 there's language related to facing -- faced bats.
4 The facing must face towards the living area and
5 I'm suggesting that additional language ought to
6 be included in there that the facing must be in
7 contact with the underside of the floor sheathing.

8 The facings of faced bats are flammable
9 material, and the building code requires that they
10 be in substantial contact with the finished
11 material.

12 There is, on page RH4 and RH5, ceiling
13 and roof insulation, and loose fill ceiling
14 insulation there is language that talks about the
15 insulation needs to cover IC rated fixtures. And
16 certainly IC rated fixtures are becoming a
17 requirement in the standards.

18 My comment here, I guess, is that you
19 could have a situation where compliance could be
20 taken for an addition, and using the existing
21 building as part of the compliance process. And
22 you may encounter extra insulation going into the
23 addition to help everything comply.

24 And in that addition, in particular in
25 that addition you may have a non-IC rated fixture.

1 So, it's a little quirk. We tend to think that
2 these new compliance options are only going to be
3 used for new construction. And we may have a new
4 construction, but it actually is an addition where
5 we also allow in the standards a whole bunch of
6 different ways to show compliance for the
7 addition. And I just don't want us to be
8 stumbling over this little issue right here.

9 Is that the last of my cards?

10 MS. SHAPIRO: No, the specific protocol
11 for conducting density checks of insulation.

12 MR. WARE: Oh, yes. In the residential
13 ACM manual, I believe it's in the ACM manual, the
14 protocol --

15 MS. SHAPIRO: It's in the res ACM
16 appendix RH4 and RH5.

17 MR. WARE: Thank you. That's correct,
18 thank you, Rosella.

19 In the res ACM appendix, again on page
20 RH4 and RH5, ceiling and loose fill insulation and
21 roof fill ceiling insulation, there is language
22 that requires the HERS provider to verify that
23 there have been density checks to insure that the
24 proper R value thickness and density are installed
25 to again, it's a compliance check on the process

1 to make sure that everything is done correctly.

2 Our industry supports that process,
3 however I do believe that there ought to be
4 language added that at least references the
5 protocol for which those density measurements and
6 R value measurements would entail. As opposed to
7 just saying that the HERS provider will insure
8 that that has been done.

9 And overall I think that would improve
10 the entire section on high performance
11 installation procedures. I think we want to
12 insure that people utilize that process. And if
13 we don't provide language that at least helps them
14 establish a minimum protocol for conducting the
15 kinds of things that are the intent of that
16 process, we may not use it then. We may lose the
17 advantage of that compliance option.

18 Thank you.

19 PRESIDING MEMBER PERNELL: All right,
20 thank you.

21 MS. SHAPIRO: Mr. Mattingly, would you
22 like to come talk to us about water heater usage
23 patterns?

24 MR. MATTINGLY: Joe Mattingly with Gas
25 Appliance Manufacturers Association. This is just

1 a couple questions rather than comments.

2 First, does time of day valuation apply
3 to gas consumption by gas appliances? And if
4 that's so, what's the philosophy behind that?
5 Just one question.

6 MR. ELEY: It does apply but it's a
7 monthly variation not an hourly variation. It's a
8 summer/winter thing.

9 MR. MATTINGLY: Okay. And on looking at
10 the water heating schedules in the ACM, it seemed
11 to us that relative to the Washington, D.C.
12 metropolitan area, California seems to have a
13 large number of late night party goers or
14 insomniacs.

15 (Laughter.)

16 MR. MATTINGLY: And we were just
17 wondering, is there a study or something, an
18 actual study of usage that came, you derived this
19 schedule from?

20 MR. ELEY: There were a number of
21 studies that were consulted in coming up with that
22 schedule. The one we finally settled on was
23 actually a load profile from Pacific Gas and
24 Electric that represented quite a large chunk of
25 customers, like 500 or something, 450 customers.

1 And so the load profile that we're
2 proposing is the aggregate of those 450 users.
3 It's not a single individual who might have, you
4 know, local spikes --

5 MR. MATTINGLY: So does that exist
6 somewhere, that study?

7 MR. ELEY: Yeah, there were a number of
8 research reports that led up to the 45-day
9 language. And this one is, I can't remember
10 exactly where it is, but at the break I can point
11 you to it.

12 MR. MATTINGLY: All right, thank you
13 very much.

14 PRESIDING MEMBER PERNELL: Thank you.

15 MS. SHAPIRO: Thank you, Joe. And Mr.
16 DeVito, can you -- thank you so much for also
17 specifying your separate topics, but now I'm going
18 to lump you because it's almost 12:30. So speak
19 to them all.

20 MR. DeVITO: I was going to ask if I
21 could because one of them is only about 30 seconds
22 anyway.

23 MS. SHAPIRO: Good.

24 MR. DeVITO: Commissioners, my name is
25 Eric DeVito. I represent Cardinal Glass

1 Industries, a proud corporate citizen of
2 California. We have two plants here; and we've
3 been involved in the Title 24 process dating back
4 to the early '90s, and in these 2005 standards
5 specifically, we were very involved early on
6 filing comments and actually came out here and
7 testified.

8 But sort of been participating online
9 since then. So we thought it was a good
10 opportunity to get back in the fold and just on
11 record put our comments and support for the
12 various things that's going on.

13 First I guess it's a matter of
14 housekeeping. There was, I believe, a typo that I
15 noticed, and I'd like to take care of that one
16 first. And it's in the section 152 for the
17 additions section. It's 152A1A, would be on page
18 172.

19 And if you read it, and it's tough with
20 all the strikeouts and all that, but if you read
21 it, the second line, it looks like it's trying to
22 say that additions up to 100 square feet shall
23 meet the U factor and SHGC requirements of package
24 D. But if you read it all together with the
25 underlining and strikeouts there seems to be an

1 and in this table 151 that jumps in that may not
2 be appropriate.

3 So I just point that to you, and I'm
4 sure when it got all put together in the end
5 someone probably would have caught it. But I just
6 want to leave it at that and let them worry about
7 it later.

8 PRESIDING MEMBER PERNELL: Let's see
9 if -- are we finding that, Mr. Pennington?

10 MR. ELEY: I think there's -- yeah, I
11 agree, it is a typo. There's an extra and in
12 there.

13 PRESIDING MEMBER PERNELL: All right,
14 thank you for that. Please continue.

15 MR. DeVITO: And the next one, which
16 should take about 30 seconds, has to do with it's
17 in the ACM manual. It is section 3.3.2. It is a
18 new provision. And Charles actually noted it in
19 his presentation.

20 It first drew my attention when he only
21 noted that the new glazing area percentage for the
22 proposed and standard design closed the loophole
23 for multifamily. Well, I believe it closes the
24 loophole for residential single family, as well,
25 as he noted.

1 And it does tighten up the standard, and
2 particularly when you're going to 20 percent
3 glazing area in the prescriptive packages, this
4 tightens it up nicely. And doesn't water down the
5 insulation and fenestration provisions because
6 there is now this sliding scale. So we do fully
7 support that change.

8 And the --

9 MS. SHAPIRO: Is that right, Charles,
10 that single family is --

11 MR. ELEY: Yeah, it does.

12 MR. DeVITO: And the number one thing
13 we're out here to testify in support of, it
14 specifically has to do with the new provisions for
15 additions, alterations and replacement windows.

16 It is a hole that exists in the
17 standards right now, and this is an excellent way
18 to close that hole. We fully support the use of
19 the package D requirements which keep the
20 requirements consistent for both new and existing
21 housing, because the same technology is used for
22 both. There may be some slight differences in
23 frame profiles, but we're a glazing manufacturer
24 and our glass units go into both new and existing.

25 So having the same requirements for

1 both, it streamlines inventories, economies of
2 scale, lower cost for consumers in the long run.
3 It's also consistent the way the IECC does it, as
4 well.

5 I've heard some words in the street
6 about there may be some issues about the
7 enforcement and the permitting with regard to
8 replacement windows. I don't want to get into
9 that debate, but I will say that it's no different
10 than any other alteration. And in fact, I believe
11 it's easier for replacement windows in this
12 context because keeping them consistent with new
13 and existing homes, you're setting that target
14 very specifically.

15 It's like the speed limit. There may
16 not be a police officer following you when you're
17 going 85, but if that posted speed limit is there
18 there's a greater chance you're going to meet it,
19 and with the consistency between the new and
20 existing standards, chances are when the products
21 come out of the factory they're going to already
22 meet the code anyways. And that's the best
23 enforcement you'll ever have. So, we fully
24 support use of those package D requirements like
25 that.

1 As far as the benefits, themselves, I
2 don't think we have to go into a lot of detail
3 there. They've been proven cost effective in the
4 new housing side time and time again. It's an
5 integral part of the new housing standards.

6 The same is true for existing homes. In
7 fact, even more so, because installation is such a
8 big cost of replacement windows. And at the
9 relative costs of the upgrade to the low E glazing
10 in this example was even a smaller portion of the
11 window, so it was even more cost effective.

12 And another point, too, is that over
13 half the windows in the country and in California
14 are in existing homes. More than half. So this
15 is a big hole that is being closed by the
16 standard.

17 And the final thing I will say is just
18 pointing back to the Commission order on AB-970,
19 which I did have here, and I don't really have a
20 slide for it, but it's pretty simple. The
21 Commission's order said that existing homes are a
22 major opportunity to reduce peak demand,
23 specifically replacement windows, and was a
24 suggestion that the next time that there be some
25 provisions that deal with it.

1 This is the next time, and as far as
2 we're concerned you're doing a very good job of
3 it, and we fully support the way it's being done.
4 And that these provisions stay in the standard.

5 Thank you very much.

6 PRESIDING MEMBER PERNELL: Thank you.

7 MS. SHAPIRO: And, Mr. Parks. You may
8 be last speaker and you can be first when we come
9 back.

10 MR. PARKS: But no pressure.

11 (Laughter.)

12 MR. PARKS: I'm Jim Parks with the
13 Sacramento Municipal Utility District, also known
14 as SMUD. I want to say that SMUD agrees with the
15 changes in the standards and we support them
16 wholeheartedly.

17 The changes that are proposed are very
18 comprehensive, covering all areas of energy use,
19 including the building shell, the lighting, HVAC
20 and building controls.

21 On the residential side, though, I do
22 have one recommendation. It's been alluded to a
23 couple of times. And that's in the area of the
24 compact fluorescent lights.

25 The current proposal is for electronic

1 ballasts on those 18 watts and above. And I think
2 that number should be lower, possibly 13 watts or
3 below. I think we'll see a lot of use of the 13
4 watt bulbs in new construction, and I think that
5 to avoid I guess consumer opposition potentially
6 because of flicker and delayed start times it
7 would be better to have the electronic ballasts.

8 I did speak with one manufacturer, a
9 national manufacturer, on this and they said that
10 the incremental costs between the electronic
11 ballasts and the magnetic ballast is no different
12 on the 18 watt as opposed to the 13 watt.

13 So if they're required on the 18 watt
14 side, it would be like why not require them on the
15 13 watt side.

16 But overall, we're just very excited
17 about the changes. And we are very supportive of
18 them. Thank you.

19 PRESIDING MEMBER PERNELL: Thank you.
20 All right, is there anything else under this
21 section?

22 MS. SHAPIRO: I have no more cards, so
23 too bad. Oh, no, there's somebody else who raised
24 their hand.

25 Why do you ask that question?

1 PRESIDING MEMBER PERNELL: Because we're
2 allowing everybody the opportunity.

3 MS. SHAPIRO: Okay.

4 PRESIDING MEMBER PERNELL: Yes, ma'am,
5 please state your name for the record.

6 MS. SHAPIRO: This is on residential
7 only, right.

8 MS. ENGLISH: This is on the residential
9 lighting portion.

10 MS. SHAPIRO: Okay, good.

11 MS. ENGLISH: Cheryl English, Acuity
12 Brands. With regard to the 13 watt recommendation
13 I submitted that recommendation. I do think that
14 it's important to note that the cost differential
15 between the 18 watt magnetic and the electronic is
16 essentially the same as the cost differential for
17 the 13 watt.

18 In terms of the percentage energy
19 savings they're about the same, so the cost
20 effectiveness on the 13 watt would be essentially
21 the same as the 18 watt.

22 I have provided that information to
23 staff so they have that in reviewing. The
24 Builders Association has asked for that data, so
25 that should be available.

1 I also want to note that, you know, in
2 the spirit of problem solving we have submitted
3 this because we think it is a potential problem
4 and a potential loophole.

5 In my own residence, as an early adopter
6 of new technology, I adopted compact fluorescents
7 when the choke ballast was the only ballast
8 available. And so these products do have a very
9 annoying blink, a nuisance. And what happens in
10 my own home is rather than turning them off when
11 I'm not in the room I leave them on, because I
12 don't want to see them blink again when I turn
13 them on. The result is a higher energy use.

14 So I strongly urge you to consider
15 lowering that to 13 watt to avoid that nuisance
16 factor.

17 Thank you.

18 MS. SHAPIRO: Cheryl, do you want to
19 just say right now ditto for nonres, because I
20 think you -- oh, it --

21 MS. ENGLISH: I didn't have comments on
22 nonres.

23 MS. SHAPIRO: Okay, but not about 13
24 watt. Your things are just on outdoor lighting
25 now?

1 MS. ENGLISH: That's right.

2 MS. SHAPIRO: Great, thank you.

3 PRESIDING MEMBER PERNELL: All right, is
4 there anyone else before we break for lunch?

5 Seeing no hands, the Committee will
6 break for lunch and be back at 1:35, please.
7 Thank you.

8 (Whereupon, at 12:35 p.m., the hearing
9 was adjourned, to reconvene at 1:35
10 p.m., this same day.)

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1 AFTERNOON SESSION 1:43 p.m.

2 PRESIDING MEMBER PERNELL: We are
3 resuming our Committee hearing, and at this point
4 we're done with our residential building portion.
5 We are now on nonres, and, Rosella, is there any
6 housekeeping we need to do?

7 MS. SHAPIRO: I just want to say I
8 forgot one of the res cards and when Mike Gabel
9 comes back I will let him do his res comment.
10 Sorry.

11 So we are on to nonres, but we will have
12 one res comment.

13 PRESIDING MEMBER PERNELL: All right,
14 with that -- is that --

15 MS. SHAPIRO: I want to remind people to
16 please bring your cards to Elaine. Thank you.

17 PRESIDING MEMBER PERNELL: All right,
18 with that we will begin our nonres portion. Mr.
19 Pennington.

20 MS. SHAPIRO: Bill, you're on.

21 MR. PENNINGTON: Okay. So, Charles, are
22 you ready?

23 MR. ELEY: Yes. Okay, I'm going to go
24 through a quick summary of the major changes to
25 the nonresidential standards. The first thing

1 I'll mention is the cool roofs requirement.
2 Section 143 now has a prescriptive requirement for
3 cool roofs in low slope applications, which are
4 one in 12 or flatter.

5 We've also expanded the building
6 envelope trade-off procedure to include both
7 reflectance and emittance as continuous variables.
8 So any cool roof product can be accurately
9 accounted for in that process.

10 The standard references CRRC, that's the
11 Cool Roof Rating Council's procedure for
12 determining reflectance and emittance. So any
13 qualifying product has to have a CRRC label, and
14 have the reflectance and emittance certified that
15 way.

16 There's a durability standard that
17 applies to liquid-applied coatings. This deals
18 with the elongation, tensile strength, mill
19 thickness and so forth.

20 And finally, with regard to alterations
21 and additions, the cool roof requirement is
22 triggered for new roofs on existing buildings that
23 are larger than 2000 square feet in area. Now,
24 there are some exceptions to that.

25 Another very significant change is that

1 there's a set of acceptance requirements for
2 nonresidential buildings. These are, in many
3 ways, parallel to the field verification and
4 diagnostic testing requirements that have existed
5 in the residential sector for some time.

6 These acceptance requirements are
7 documented in ACM appendix MJ, and there's leaks
8 to them throughout the document. Most equipment,
9 HVAC equipment, also some lighting controls, that
10 are prone to functioning properly, have acceptance
11 requirements attached to them.

12 There's another change with regard to
13 demand control ventilation. These are sensors
14 that vary the outside air to spaces. This
15 requirement applies to conference rooms, dining
16 rooms, lounges and gyms where the occupancy can
17 vary quite a lot. There is an explicit exception
18 for classrooms. This is a mandatory measure so
19 there's no tradeoffs for this requirement.

20 Another change is that insulation
21 installed directly over suspended ceilings or T-
22 bar ceilings is prohibited except in very limited
23 cases. The limited case is where you have a less
24 than 2000 square feet of conditioned space, plus
25 the space above the ceiling has a height of more

1 than 12 feet. So the exception is intended to
2 deal with the small office in a high bay warehouse
3 or manufacturing area.

4 There are U factors that are in joint
5 appendix 4 which deal with T-bar ceilings. They
6 account not only for the thermal bypass associated
7 with lighting fixtures, but they also account for
8 an infiltration bypass that's factored into the
9 procedure.

10 There are new standards for relocatable
11 classrooms. These are climate-independent
12 standards. This means that a manufacturer can
13 comply with these standards and then ship the
14 product to anyplace in California. Prior to this
15 change, a relocatable had to be certified for one
16 or more climate zones. This way there's just one
17 set of requirements.

18 In terms of duct sealing and insulation,
19 R8 is the mandatory minimum for ducts in
20 unconditioned spaces and outdoors. And in
21 addition, ducts have to be sealed to have a
22 leakage no greater than 6 percent.

23 Now, this doesn't apply to duct systems
24 in large nonresidential buildings, but this is
25 limited to single zone HVAC systems where the

1 ducts are located in an attic type situation.

2 It's really more of a residential class of
3 construction where this requirement applies.

4 In terms of lighting there have been a
5 number of changes. Probably the biggest change is
6 both the whole building and the whole area numbers
7 are lower. They're lower because of advances in
8 lighting equipment, source efficacy.

9 There's a few little changes where we've
10 added some new area categories, or new building
11 types. There's several lighting control changes.
12 One of them -- and a couple of new credits that
13 have been offered.

14 There's a credit, for instance, for
15 bilevel control in hallways of hotels and motels
16 where the lights would go to half-bright, for
17 instance, until someone walks down the hallway.
18 And then they would come up to full-bright again.
19 And this credit would apply to stacks, bases in
20 commercial and industrial buildings and libraries.

21 There's a number of other minor changes;
22 they're not minor, but I won't spend a lot of time
23 on them. We've tried to simplify the tailored
24 method and make that much more straightforward. I
25 think we've succeeded.

1 Another change which I think is really
2 quite significant is large spaces, large and close
3 spaces that have a ceiling height of more than --
4 that are one story, have a ceiling height of more
5 than 15 feet or 25,000 square feet or greater,
6 have to have skylights for daylighting. And the
7 electric lighting in those spaces has to be
8 automatically controlled so that it shuts down
9 when daylighting is available.

10 This is -- think large warehouses, big
11 box retail like Home Depot, that's the type of
12 building where we anticipate this requirement
13 having an impact.

14 Another change relates to thermal breaks
15 in metal roofs. In the prescriptive packages
16 there's two ways to comply. You can install
17 insulation at a certain R value, or you can meet
18 the U factor criteria.

19 With metal roofs the insulation is
20 compressed at the perling, so that the overall U
21 factor is compromised some. And the change is
22 that you have to use the U factor method when you
23 have metal building roofs. You can't use the R
24 value method to comply with that requirement. And
25 that's going to make the standards a bit more

1 stringent for metal roofs.

2 There have been a number of changes to
3 the space conditioning systems. There's some
4 requirements for certification of cooling towers.
5 One of the significant requirements is that water-
6 cooled chillers are required for larger chilled
7 water plants, 300 tons and more.

8 The size thresholds for variable
9 frequency drives have been lowered. It's now ten
10 horsepower for fans and five horsepower for pumps.
11 So anything larger than that would need to have a
12 variable frequency drive.

13 There's requirements for temperature
14 reset on both the chilled and hot water hydronic
15 loops. And for series powered mixing boxes the
16 motors in those have to be electronically
17 computated, which is a way of slowing the motor
18 down more efficiently. So these are some of the
19 highlights of the changes to HVAC systems in
20 nonresidential buildings.

21 With Assembly Bill 5X the Energy
22 Commission now has authority to regulate energy
23 use in unconditioned buildings. So the lighting
24 requirements now apply to unconditioned
25 warehouses, parking garages and spaces that don't

1 have heating or cooling systems.

2 Prior to these standards those spaces
3 were exempt from all of the standards, including
4 the lighting standards.

5 There's several new compliance options
6 that have been developed and are in the ACM
7 manual. A couple of things related to gas-cooling
8 systems and also under-floor distribution.

9 A number of other minor changes. We now
10 have a new schedule in the ACM manual for retail
11 stores, so we've got retail, other nonres and
12 residential. There's the 40 percent glass limit
13 now applies separately to west-facing windows.
14 There's some new requirements for insulation
15 that's installed above the roofing membrane. This
16 has to do with the permanence of such material
17 since they're exposed to UV light and moisture.

18 There's some changes to the NFRC label
19 certificates. Both the U factor and the SHGC
20 numbers have been modified in the prescriptive
21 requirements. Not to make the standards more
22 stringent, but just to make the standard
23 requirements agree with changes made in the NFRC
24 test procedures.

25 And there's also been some modeling

1 changes related to how air conditioners perform at
2 high temperatures.

3 I would like to recognize the two
4 members of the consulting team that have
5 contributed a great deal. Jim Benya, who has
6 helped with the lighting requirements; and Mark
7 Hydeman, who has helped with HVAC. So they'll
8 join me up here when Rosella gets to questions on
9 those topics.

10 MR. PENNINGTON: In addition I'd like to
11 draw your attention to the first draft of the 15-
12 day language document that was out on the table.
13 And page 61, we're going to go over the draft
14 changes that relate to nonresidential buildings.

15 We're proposing to clarify how process
16 spaces are dealt with in the standards, with some
17 changes to the scope section. And so those are
18 shown on those two pages.

19 On page 63 through 69 ARI brought to our
20 attention that with the new version of ARI 550/590
21 test procedure there were a number of changes
22 related to the efficiency requirements to be
23 consistent with those new test procedures, in the
24 ASHRAE90.1 approved efficiency tables, which are
25 also in our standards. So we captured those

1 changes on those pages. Appreciate ARI bringing
2 that to our attention.

3 On page 70 we've made some changes here
4 related to ducts to clarify when duct requirements
5 must meet R requirements and the requirements that
6 are in the California Mechanical Code. And we
7 also have deleted the requirement that flexible
8 ducts having porous inner cores would not be used.
9 This was in response to discussion with duct
10 manufacturers who pointed out to us that this is a
11 reasonable requirement for residential buildings,
12 but not for nonresidential buildings.

13 There are changes on page 71 and 72
14 related to the different provisions associated
15 with cool roofs in different parts of the
16 standard. And some of this is just clarifying the
17 language to be more clear. We have had a fair
18 amount of discussion with roof product
19 manufacturers related to the exception to section
20 149B(1)(b) in the alterations section, which was
21 related to not obligating roofs that have rock or
22 gravel surfaces to meet the cool roof requirement.

23 And what's been pointed out in those
24 discussions is that there's really a quite limited
25 number of cases where it's appropriate for there

1 to be an exception for those kinds of roofs. And
2 so basically these exceptions have narrowed
3 considerably compared to our original proposal.

4 On page 73 and 74 Mark Hydeman pointed
5 out to us that we had redundancies in the
6 acceptance requirements between the mandatory
7 section in section 125 and the prescriptive
8 section in section 144. And so we've tried to
9 clear up those redundancies, or actually I guess
10 they're conflicts. And also tried to clarify this
11 language so it's more clear. So that's there.

12 Page 75, this is the envelope
13 requirements table for nonresidential buildings.
14 There was a typo in the first column that we
15 corrected. Page 76 and 77, the concern has been
16 raised about the proposal that we had made to
17 change the cooling dry bulb design temperature to
18 use the 1 percent column data. And we're changing
19 that back to what it was, to 0.5 percent data
20 point. So that's those.

21 And then this change rippled into
22 several documents. So we had to make consistent
23 changes to more than one document.

24 On page 79 through 88 are a series of
25 changes that we've made in response to Martyn

1 Dodd's comments. These make changes related to
2 getting terminology consistent with changes that
3 we've made in the standard; getting ventilation
4 requirements that are shown for modeling to be
5 consistent with new requirements for demand
6 control ventilation.

7 And, let's see, also to be more clear
8 about heat pumps, how heat pumps should be modeled
9 on the heating side in nonresidential buildings.
10 I think that's pretty much it.

11 And, again, those changes sort of ripple
12 through several documents, so there's a lot of
13 conforming changes on those pages.

14 PRESIDING MEMBER PERNELL: Okay, any
15 questions from the dais? Commissioner? Rosella?
16 All right. Yes, we are ready. I want to turn
17 this over to Sergeant Rosella.

18 (Laughter.)

19 PRESIDING MEMBER PERNELL: Sorry.

20 MS. SHAPIRO: Steven, would you like to
21 come up -- no, you can do your first thing and get
22 out of here. And you can do -- yeah.

23 MR. YUREK: Commissioners, Steve Yurek
24 with ARI. There's just one point I want to make
25 at this time on the nonresidential, and that is

1 related to the issue of chillers, in particular
2 air-cooled chillers.

3 We had filed comments prior to this and
4 prior to the 45-day language. Still there is a
5 requirement as shown in the slides that were
6 presented here that air-cooled chillers are
7 prohibited above 300 tons. When actually in the
8 slide it says that they're prohibited above 100
9 tons.

10 The concern that we have with this is
11 that you are precluding available product from the
12 market that's readily available. This is an
13 exclusion that's based upon the functioning of
14 that product being air-cooled rather than water-
15 cooled, and not requiring a cooling tower.

16 It has nothing to do and is not based
17 upon an energy efficiency requirement. Everything
18 else in this building code, any products that's
19 available in the market that meet the energy
20 budget that is designed for this building, be it
21 nonresidential building in this case, they could
22 use whatever products are available in the market
23 that meets that energy budget.

24 Here you're precluding any chiller above
25 100 tons that is air cooled; requiring then the

1 installation of water-cooled chillers, which
2 require the installation, also, of cooling towers
3 and other products which are much more expensive.

4 As stated in the response to our
5 concerns filed for the 45-day language, these
6 chillers of this size are in large buildings.
7 They are in buildings which in most instances have
8 very sophisticated buyers, designers, engineers
9 that are on staff. And to preclude them from
10 choosing any product that's available in the
11 market, that meets the requirements of their
12 energy budget, I think is unwise.

13 And we would recommend that there not be
14 a limitation on tonnage of air-cooled or water-
15 cooled chillers, but that the requirements be that
16 they can meet the energy budget requirements
17 proposed in the nonresidential building code.
18 They can then choose based upon the economics of
19 that particular building if they're going to
20 install an air-cooled chiller, or if they're going
21 to go to the expense of putting in cooling towers
22 and installing a water-cooled chiller.

23 Those are my comments on that. So if
24 there's any questions or --

25 PRESIDING MEMBER PERNELL: Yeah. I'd

1 just like a response from --

2 MR. ELEY: Well, maybe I probably wasn't
3 real clear in the presentation. But the 300-ton
4 water-cooled requirement is not a mandatory
5 measure. That's a prescriptive requirement.
6 Which means that if you use the -- your energy
7 budget for such chilled water plants will be based
8 on a water-cooled plant.

9 But you can comply with an air-cooled
10 plant, as long as you use less energy.

11 MR. YUREK: Again, I don't have the
12 direct quote from the regs, but there is a
13 prohibition of above-300-ton air-cooled chill --

14 MR. ELEY: But it's a prescriptive
15 requirement, which means that you can make
16 tradeoffs in the performance approach.

17 MR. YUREK: And still use an air-cooled
18 chiller --

19 MR. ELEY: Yes.

20 MR. YUREK: -- to meet those
21 requirements.

22 MR. ELEY: Correct.

23 MR. YUREK: That was not the
24 understanding or wasn't clear from the language as
25 written that that was available.

1 MR. ELEY: Yes, I'll admit to not
2 presenting it accurately.

3 MR. PENNINGTON: There's a section, the
4 sections are separated into sections that are
5 mandatory sections that are prescriptive and
6 sections that are performance. And all of the
7 requirements that are in the prescriptive are
8 prescriptive --

9 MR. ELEY: Everything in section 144,
10 which is where this falls, are prescriptive
11 requirements, and any of those things can be
12 traded off in the performance approach, including
13 the water-cooled chiller.

14 MR. PENNINGTON: I'm wondering, Mark, if
15 you could respond to kind of what analysis was
16 done of this and why we ended up here.

17 MR. HYDEMAN: I appreciate the
18 opportunity to -- Mark Hydeman with Taylor
19 Engineering -- appreciate the opportunity to kind
20 of clarify the record on this study.

21 This requirement or proposed requirement
22 was justified through a very detailed life cycle
23 cost analysis, the details of which were presented
24 in a previous workshop and they're up on the
25 Energy Center's website.

1 And to date, both ARI and manufacturers
2 have looked at that life cycle cost study and have
3 not found any significant errors in that study.
4 In other words they didn't disagree with -- they
5 disagreed with the conclusions, but did not
6 disagree with the numbers that were used for the
7 costs. And we covered water costs, we covered
8 maintenance costs, we covered increased
9 architectural costs for having housing for the
10 chillers and many other things.

11 The second issue is one that was raised
12 by the speaker earlier was that we don't have
13 similar requirements limiting types of equipment
14 anywhere else in the standard. I would argue that
15 lighting, which is done on a watts-per-square-foot
16 basis may preclude certain lighting technologies.

17 And I think there are other areas within
18 the standard where we do, in fact, trade off
19 between types of equipment or types of systems.
20 It's relatively new in HVAC, but certainly our fan
21 power budgets or our budgets for unloading
22 characteristics for fans or pumps would
23 potentially preclude certain types of
24 technologies. So it's not unheard of for the
25 standards to have these things.

1 But I think the thing that's really
2 important to note here, one, it is a prescriptive
3 requirement; and second, it was justified through
4 very detailed life cycle cost analysis with real
5 contractors pricing behind it.

6 PRESIDING MEMBER PERNELL: All right,
7 thank you.

8 MS. SHAPIRO: Steve, is that it for you?

9 MR. YUREK: Yes.

10 MS. SHAPIRO: Okay.

11 PRESIDING MEMBER PERNELL: He's looking
12 that up. It's called personal verification.

13 (Laughter.)

14 MS. SHAPIRO: Now we have Mike Gabel who
15 is first going to talk about res that I didn't
16 have him talk before. And then you can do your
17 nonres topic next, so you're not hopping up and
18 down, Michael. Okay, I will.

19 MR. GABEL: Good afternoon,
20 Commissioners. My name is Mike Gabel; I'm
21 representing CABEC today. I'm here to first of
22 all say that CABEC really appreciates the effort
23 the Commission and the staff has made in
24 developing the proposed standards. We approve and
25 really feel good about most of the 45-day

1 language. We're here to speak to just two items.

2 The first, let me just say I was unable
3 to attend this morning and so was Bill Mattinson,
4 so I'm going to just allude to a letter that Bill
5 Mattinson sent requesting the deletion of the HERS
6 provider notification requirements of the
7 residential ACM. It's a letter that he sent to
8 the Commissioners, and hope you'll have a chance
9 to read that.

10 Just briefly on that issue we feel that
11 the elimination of the HERS requirement
12 notification is necessary because we feel that the
13 current language does nothing to improve
14 compliance and enforcement; and we feel that, in
15 fact, there are other ways to solve the problem
16 that that was trying to address.

17 So, I'll defer to that letter. I hope
18 you have a chance to read it.

19 I'm here primarily to speak to the
20 nonresidential issues of the elimination of the
21 ENV3 and the form 3 in the proposed standards.
22 And this has to do with the joint ACM appendices,
23 appendix 4.

24 Essentially we're strongly opposed to it
25 for a variety of reasons, and I'll try to

1 summarize briefly. The proposed tables in the 45-
2 day language to cover all kinds of construction
3 assemblies can't really cover all construction
4 types. And so what happens in the real world is
5 we're left with construction assemblies, walls,
6 ceilings and floors that are not in the table.

7 So if you go into a building department
8 with a project and your building assembly doesn't
9 match what's in the table, it's going to be a
10 debate about which of those items in the tables,
11 the quote "correct" one.

12 We've had a system in place for 25
13 years, since 1978, which has worked well. Staff
14 expresses its view that there's some problems with
15 that, which we think we can help them fix. And
16 we've proposed, in a conference call with staff
17 and Charles Eley, that some adjustments be made to
18 the 45-day language.

19 Essentially the other issue is really
20 that we feel that even using the tables it's going
21 to be fairly complicated. However, again, we
22 think we have a proposal that will work using ACMS
23 to generate acceptable construction assemblies
24 with all the correct constraints.

25 So, what I respectfully request is that

1 we continue trying to work with staff and Charles
2 Eley to get a better solution than the 45-day
3 language, and fairly soon.

4 And that's all I have to say.

5 PRESIDING MEMBER PERNELL: All right.
6 Mr. Pennington.

7 MR. PENNINGTON: Yes, we did talk about
8 the progress we've made in the last few days on
9 making joint appendix 4 more usable and responding
10 to your concerns. And there is a first draft of
11 15-day language that we talked about this morning
12 that tries to do that.

13 I don't think we're all the way there
14 yet. We have some assemblies that we're planning
15 to add. Charles identified what those were this
16 morning. So, we'd like to continue to work with
17 you.

18 MR. GABEL: Okay, and what we're looking
19 for is some reassurance by the Commission that
20 there will be some ENV3/form 3 option available
21 under the new standards, even if it's restricted
22 in its use and even if it has other built-in
23 assumptions. And I guess that's sort of what we
24 want some reassurance on.

25 So, Bill, do we have some reassurance we

1 can try to work to that end, or --

2 PRESIDING MEMBER PERNELL: Well, I would
3 suggest that you work with Bill and the staff and
4 come up with something and present it -- Bill will
5 present it to the Committee.

6 MR. GABEL: Okay.

7 PRESIDING MEMBER PERNELL: I don't want
8 to put him on the spot right now, agreeing to any
9 assurances --

10 MR. GABEL: We did, but --

11 (Laughter.)

12 PRESIDING MEMBER PERNELL: -- because --

13 MR. GABEL: Okay.

14 PRESIDING MEMBER PERNELL: -- he doesn't
15 have --

16 MR. ELEY: Everyone else is.

17 PRESIDING MEMBER PERNELL: -- that
18 authority.

19 MR. GABEL: Okay, thanks very much.

20 PRESIDING MEMBER PERNELL: All right,
21 thank you.

22 MS. SHAPIRO: Dave Ware, do you want to
23 come and talk about --

24 PRESIDING MEMBER PERNELL: Well, wait,
25 wait, is this on this issue?

1 MR. YUREK: No, this is --

2 MS. SHAPIRO: Something he forgot.

3 MR. YUREK: -- responding to the
4 misinformation that was given before regarding air
5 chillers.

6 If you go to subchapter 5, section 140
7 of Title, page 87. Section 140 gives you a choice
8 between the performance approach or the
9 prescriptive approach.

10 The performance approach says to use --

11 PRESIDING MEMBER PERNELL: Hold on, we
12 need to find this.

13 MR. YUREK: It's page 87, subchapter 5,
14 section 140. And then you'll also need to go to
15 page 111, as well, which is in section 144.

16 MS. SHAPIRO: Put us to the first page
17 again that you want us to be at.

18 MR. YUREK: It's page 87.

19 MS. SHAPIRO: Okay. Where we have a
20 choice between performance and prescriptive?

21 MR. YUREK: Right.

22 MS. SHAPIRO: Yeah.

23 MR. YUREK: And it says for the
24 performance approach the energy budget must be
25 calculated according to section 141, which follows

1 right on that same page.

2 Under section 141A(1)(a) it says: The
3 standard building has space heating, space cooling
4 and ventilation systems that meet but do not
5 exceed the minimum efficiency requirements of
6 section 111 and 112, which are related to Title 20
7 in the minimum efficiencies that are in those
8 tables, and the requirements of section 144.

9 Section 144 is the prescriptive
10 approach. If you go to page 111, which is section
11 144, section (i), it says under section (i)(1):
12 Chilled water plants with more than 300 tons total
13 capacity shall not have more than 100 tons
14 provided by air-cooled chillers, thereby limiting
15 the ability of air-cooled chillers under this
16 section.

17 The exceptions to that are only if
18 there's an issue with the water requirements or if
19 they use a thermal energy storage system. So,
20 there is a limitation on the use of air-cooled
21 chillers put into this energy code. It's
22 something that (1) doesn't address, if there's a
23 replacement and they're replacing an air-cooled
24 chiller, the expense of having to put into a
25 cooling tower.

1 It also limits the availability of
2 products that are in the market without any real
3 energy reason or purpose behind that if they can
4 meet the energy budget.

5 PRESIDING MEMBER PERNELL: All right,
6 let me stop you right there and ask for a
7 response.

8 MR. ELEY: Okay. Let's go to 141A(1)(a)
9 where it says the standard --

10 MS. SHAPIRO: Back on page 87.

11 PRESIDING MEMBER PERNELL: Okay.

12 MR. ELEY: Page 87. The standard
13 building is the budget building. So the
14 requirements -- if there are requirements on the
15 standard building, what that does is it sets your
16 energy budget.

17 So what this is saying is that you do
18 two computerized. One of them is your standard
19 design and one is your proposed design. Your
20 standard design must meet 111, 112, plus all of
21 144. But your proposed design can be anything
22 you want to build.

23 MS. SHAPIRO: That meets that budget.

24 MR. ELEY: That has less energy than the
25 standard design. So it's not a mandatory measure;

1 there's still flexibility in the performance
2 approach.

3 MR. HYDEMAN: You could have 1000 tons
4 air-cooled chiller capacity in your building and
5 still meet the requirements of the standard using
6 the performance method.

7 MR. ELEY: Right.

8 MR. YUREK: Now does this performance
9 method apply also to replacements, as well as new
10 construction?

11 MR. HYDEMAN: The replacements are
12 actually covered under section, I believe, 149.

13 MR. ELEY: Yeah, 149.

14 MR. PENNINGTON: Yes.

15 MR. HYDEMAN: I believe under 149. And
16 we went to lengths to make sure that you would
17 replace, be able to replace a piece of equipment
18 in kind under --

19 MR. ELEY: Under 149.

20 MR. HYDEMAN: -- under section 149.
21 However, if there was a significant expansion of a
22 plan, that that expansion is not a replacement.
23 If an expansion of a plan was greater than 300
24 times the capacity, this requirement would apply
25 to the expansion as if it was a new plan.

1 MR. PENNINGTON: And there is a
2 performance approach alternative to that, as well.

3 MR. YUREK: But which is based upon
4 water-cooled chillers with cooling towers --

5 MR. ELEY: You still have to use less
6 energy than a water-cooled chiller.

7 MS. SHAPIRO: Or the same.

8 MR. ELEY: Or the same. But you don't
9 have to use a water-cooled chiller. You could
10 make it up with lighting or water heating or
11 anything.

12 MR. YUREK: That doesn't take into
13 account then the expense of putting in the space
14 of putting in a water-cooled chiller, cooling
15 tower, compared to the air-cooled chiller.

16 MR. HYDEMAN: That was accounted for in
17 the original life cycle cost analysis.

18 MR. ELEY: Right. The burden on us in
19 terms of life cycle cost is to show that the
20 fundamental prescriptive requirements are cost
21 effective. We can't anticipate all the different
22 ways that people might choose to comply with the
23 standard and show that all of those are cost
24 effective. But we have shown that the fundamental
25 prescriptive requirements are.

1 PRESIDING MEMBER PERNELL: All right,
2 does that help your comfort level a little bit?

3 MR. YUREK: Not particularly; I still
4 see that they're excluding chillers above -- air-
5 cooled chillers above 100 tons, which I think is
6 inappropriate, but --

7 PRESIDING MEMBER PERNELL: Well, I think
8 they're on the record as saying that they're not,
9 so we can always refer to that if there's a
10 problem.

11 Okay.

12 MS. SHAPIRO: Okay, Dave, come on up.
13 Talk about section 101 definitions and rules of
14 construction.

15 MR. WARE: David Ware representing Owens
16 Corning and the North American Insulation
17 Manufacturers Association.

18 I had previously this morning talked
19 about section 101, the definitions, when we were
20 covering the requirements for all buildings. So
21 I'll move to, without prompting, section 124G,
22 porous innercore flex ducts.

23 Bill, in his overview of changes that
24 staff has committed to make to the standards, has
25 already indicated that they will remove that

1 section. And I want to thank and compliment Bill
2 for the timely phone call that the staff initiated
3 to the industry to resolve this issue, and the
4 excellent quick day or two response that they came
5 back, staff did, indeed siding with the industry's
6 concern over this particular issue as it applies
7 to flex duct. And we support the removal of that
8 section.

9 Thank you.

10 PRESIDING MEMBER PERNELL: Thank you.

11 MS. SHAPIRO: Thanks, Dave. Pat Splitt,
12 would you like to come up and talk about tailored
13 lighting?

14 MR. SPLITT: Sure. It's Pat Splitt from
15 AppTech. I was wondering if I could make one
16 comment about the presentation at the beginning
17 before I get into this?

18 MS. SHAPIRO: Sure.

19 MR. SPLITT: It had to do with a
20 statement that insulation was no longer going to
21 be allowed over ceiling tiles. And I think you
22 should make it clear that that's just thermal
23 insulation. There are instances where you might
24 put sound insulation over the tiles, and --

25 MR. ELEY: Well, you can put it there,

1 you just won't get credit for it for compliance.

2 MR. SPLITT: Right, right, but I don't
3 want to have a building official come up and say
4 you have to rip it out because it's not supposed
5 to be there.

6 Okay, so talking about tailored
7 lighting.

8 MS. SHAPIRO: Section 146, Pat.

9 MR. PENNINGTON: Are we done with HVAC
10 comments?

11 MS. SHAPIRO: Well, Pat's going to talk
12 about ventilation.

13 MR. PENNINGTON: Okay.

14 MS. SHAPIRO: Oh, no, I'm sorry, we have
15 HVAC, Jim Mullen is going to talk to --

16 MR. SPLITT: Want to finish that first?

17 MR. PENNINGTON: Yeah, it would be --
18 Mike already jumped down, but we're going to have
19 to change occupants of that chair.

20 MR. ELEY: We could do all mechanical
21 and move on to lighting.

22 MS. SHAPIRO: Okay, then that's fine.
23 Let's get Jim Mullen up.

24 PRESIDING MEMBER PERNELL: All right.
25 We were trying to keep these in order.

1 MR. PENNINGTON: I'm sorry.

2 PRESIDING MEMBER PERNELL: That's quite
3 all right.

4 MR. PENNINGTON: I didn't think about
5 that.

6 MR. HYDEMAN: I appreciate the exercise.
7 (Laughter.)

8 MR. MULLEN: Jim Mullen from Lennox. I
9 had a question on, I believe, section 144 requires
10 that if an air economizer is installed at the
11 factory of the manufacturer then the manufacturer
12 has to certify some data.

13 And I didn't find the requirements for
14 the data to be certified. Did I overlook them, or
15 am I looking in the wrong place?

16 MR. HYDEMAN: This relates to the
17 performance verification requirements that are now
18 in section 125. I don't know the page number,
19 but --

20 MR. ELEY: I'll find it.

21 MR. HYDEMAN: But the performance
22 verification requirements are a series of tests
23 that are there --

24 MR. ELEY: Page 78.

25 MR. HYDEMAN: They're on page 78. They

1 refer to some tests that are done post-
2 construction to verify that the economizer is
3 actually operable. That it can move the dampers
4 and that it can maintain the minimum position and
5 other things.

6 Those tests are specified in appendix
7 NJ --

8 MR. ELEY: Correct.

9 MR. HYDEMAN: -- of the nonresidential
10 ACM manual. And if the economizer is installed by
11 the manufacturer and shipped to the site as a unit
12 with the unit, and it's certified by the
13 manufacturer to be functioning -- having been
14 tested by the manufacturer and certified to be
15 functioning, then they do not have to do the field
16 test.

17 MR. MULLEN: I understand. My question,
18 though, is what, as a manufacturer, what do I have
19 to certify, to whom, on what form, and where do I
20 find that information.

21 MR. PENNINGTON: The information about
22 what's the nature of the certification is in the
23 appendix that Mark was referring to.

24 MR. MULLEN: Can you give me -- what was
25 the page?

1 MR. ELEY: It's appendix NJ; it's in the
2 green book.

3 MR. PENNINGTON: And we can try to
4 clarify that for you offline if you want.

5 MR. MULLEN: But just as a --

6 MR. ELEY: Well, it's here.

7 MR. MULLEN: Appreciate it. Just as a
8 recommendation, though, you might consider adding
9 that reference on page 109. I think it shows up
10 on another page, because --

11 MR. PENNINGTON: We try to avoid
12 specific references to the ACMS because then we
13 get the numbers soup here. If we did that for
14 every section, you know, it would not be good.

15 MR. MULLEN: It leaves a manufacturer in
16 the blank what he's supposed to do, though, I
17 think.

18 MR. PENNINGTON: So we could talk to you
19 by phone or whatever.

20 MR. MULLEN: And 29 others, probably.
21 Anyway, thank you.

22 PRESIDING MEMBER PERNELL: Okay, thank
23 you.

24 MS. SHAPIRO: Well, then I do want to
25 get Pat back up. But, Pat, you can talk about

1 ventilation, section 121.

2 MR. SPLITT: Pat Splitt from AppTech. I
3 have a little clarification that I sent earlier
4 dealing with the ventilation requirements, outdoor
5 air requirements. And I originally was going to
6 have this fantastic document to send to you, but I
7 ran out of time, so it's fancy with not much in
8 it.

9 So I just put in the -- I didn't cross
10 out and underline everything, I just put in where
11 I thought the wording should be.

12 So in section 121A(1) I just wanted to
13 add the California Building Code into that first
14 sentence so it reads: All enclosed spaces in a
15 building that are normally used by humans shall be
16 ventilated in accordance with the requirements of
17 this section and the CBC.

18 What you have in your document is just a
19 subset of what's in the building code. And I want
20 to make it clear that there are other
21 requirements. Such as for outdoor air ventilation
22 using natural ventilation. You just state that it
23 has to be a certain percentage of operable
24 windows. But, in fact, the building code
25 precludes counting some windows as being part of

1 the ventilation, even if they can be opened, and
2 where they're located. Say if they're on a
3 building lot line or something.

4 So, just meeting your requirement may
5 not meet the building code requirement.

6 Then section 121B(2), I tried to
7 simplify what was there and just end up with what
8 I thought you meant. So, going from B --

9 MR. PENNINGTON: Before you go there,
10 Pat.

11 MR. SPLITT: Yeah. Oh, I said delete
12 note 2, yeah.

13 MR. PENNINGTON: Yeah. Just in terms of
14 that note, I'm having trouble finding it --

15 MR. SPLITT: It was right under section
16 121A(1). I overlooked that.

17 MR. HYDEMAN: We're on page 69.

18 MR. PENNINGTON: Okay. This note was
19 put in there after lengthy discussion with CalOSHA
20 about their concerns that they see in buildings.
21 And it would be a problem to remove the note.

22 MR. SPLITT: Well, but this is supposed
23 to be a building code.

24 MR. PENNINGTON: It is a building code.

25 MR. SPLITT: And a building code either

1 you tell us what we have to do, or you tell us
2 what we can't do.

3 MR. PENNINGTON: Um-hum.

4 MR. SPLITT: But you can't tell us what
5 you recommend that we do. That would be nice.
6 What does that mean? How do you enforce that?

7 MR. PENNINGTON: Okay. The reason why
8 it's a note is because it's already -- it's
9 basically an interpretation of the standard,
10 itself. So it's not a new requirement. It's --

11 MR. SPLITT: But if there's a
12 requirement it should state it as a requirement,
13 and not say we recommend that you do this.

14 MR. PENNINGTON: Again, we can talk
15 offline --

16 MR. SPLITT: Just how you, you know, --

17 MR. PENNINGTON: -- about that.

18 MR. SPLITT: So if there's some way of
19 making it be a regulation, it's okay. Maybe I'll
20 lose my voice here and then you'll all luck out.

21 Okay, back on to ventilation, then. So
22 it looked to me like there were actually three
23 things we were looking for. And I broke them down
24 into section 121B(2)(a), (b) and (c).

25 And what I wanted to end up saying is

1 that (a) is the conditioned floor area of the
2 space times the applicable ventilation rate from
3 table 121A. This is to decide how much outdoor
4 ventilation air we need in a particular space.

5 And 15 cfm per person times the maximum
6 expected number of occupants, and 15 cfm per
7 person times half the maximum occupant load
8 assumed for egress purposes in the CBC, and the
9 section above that that I didn't repeat because I
10 didn't change, says you have to pick the largest
11 of these three.

12 So the outdoor ventilation air rate then
13 for a space would be either 15 cfm per person
14 times the maximum number of people you think that
15 are going to be in there. A number from the table
16 that's on the next page. Or 15 cfm times half the
17 maximum occupant load assumed for egress.

18 In your code now you say exiting
19 requirements, but actually there are no exiting
20 requirements any more, they're egress requirements
21 in the code.

22 So, anyway, and you have to pick the
23 largest of those. What happens now, I've been
24 doing some plan checking on schools down in
25 southern California, and there's a surprising

1 number of mechanical supposed engineers that know
2 about this half times the maximum and they'll just
3 go to that and say well, that's all we have to
4 provide.

5 And I've had plans where the mechanical
6 plan is showing a space and it's providing
7 ventilation air for 24 people in a classroom. And
8 you look at the title sheet and it calls out right
9 there that there's 40 people in that classroom.
10 And that's what it's rated for.

11 And the wording is just so convoluted
12 now, especially with these terms about whether or
13 not there's fixed seating. Well, who cares? It
14 doesn't matter.

15 So I was just trying to simplify this so
16 it's really clear that you can't just provide 15
17 cfm for half the people in there. If you know
18 that all the people are going to be in there you
19 have to provide 15 cfm per person, per occupant.

20 And so that's basically what I'm trying
21 to get done there.

22 PRESIDING MEMBER PERNELL: Do we have
23 any response?

24 MR. PENNINGTON: Again, maybe this is a
25 topic t take offline. Certainly the requirements

1 related to fixed seating are important. Maybe Pat
2 thinks there's a better way to write it, but --

3 MS. SHAPIRO: Pat does, he's given it to
4 us.

5 MR. PENNINGTON: Well, he's left out
6 that requirement --

7 MR. SPLITT: We don't have to have it.
8 Why put it in there?

9 MR. PENNINGTON: Well, I don't want to
10 argue --

11 PRESIDING MEMBER PERNELL: Okay, that's
12 not going to happen. The question is if there's a
13 misunderstanding about the regs, Mr. Pennington
14 has volunteered to take it offline. And maybe you
15 guys can talk about it and get back with us. But,
16 your point is made and we have your documentation,
17 so.

18 MR. SPLITT: Okay, and I just wanted to
19 say a lot of people are not getting adequate
20 ventilation because of the code right now. And
21 they're holding up the energy code and saying this
22 says I can do it.

23 MR. PENNINGTON: You had some more
24 comments, didn't you, Pat?

25 MS. SHAPIRO: Well, but not on that

1 topic.

2 MR. PENNINGTON: Okay, thank you.

3 MS. SHAPIRO: I'm going to move to
4 Michael Day on design temperature consistency.

5 MR. DAY: Michael Day, Rockwood
6 Consulting. One thing that I neglected to do
7 earlier was to also thank the staff. It's been
8 extremely well organized, considering the vast
9 number of questions, different issues and
10 everything else that have come up.

11 It's been handled extremely well, and
12 that's not to say it's been handled easy, or that
13 it wasn't -- we weren't required to make technical
14 points and to support them vigorously. But it was
15 amazing how much information got through and how
16 little angst was generated in the process.

17 And I wanted to personally say thank you
18 very much to the consultants, to Bryan and to Bill
19 for a very collegial experience.

20 One item that I wanted to bring up --
21 and, Charles, you might be able to explain this to
22 me -- is about we're going back to the old
23 standard on the outdoor design temperatures. I
24 see that in the nonres. Does that also apply to
25 the residential?

1 MR. ELEY: No. I think it's just
2 cooling towers, right?

3 MR. HYDEMAN: No, no, this is the
4 heating and cooling loads. And I'll give you the
5 section, if you want. It's page 106, section
6 144B.

7 MR. ELEY: We're still using 1 percent,
8 though, for residential.

9 MR. DAY: We're still using the 1
10 percent. And that goes back to a comment from
11 about two months ago where we were talking about
12 how there were some differences there.

13 So, now the residential and the nonres
14 and ASHRAE were all pretty much in concordance.

15 MR. ELEY: Right. There's still one
16 table, and the table, as you know, has 1 percent,
17 2.5 percent, 5 percent, all the data right there.

18 MR. DAY: Okay.

19 MR. PENNINGTON: So, to be clear,
20 Michael, 1 percent for residential, largely as a
21 response to comments from Beutler. And a half a
22 percent is what's going to be used for
23 nonresidential.

24 MR. DAY: Thank you very much.

25 PRESIDING MEMBER PERNELL: All right,

1 thank you.

2 MS. SHAPIRO: Okay, then we'll go to Mr.
3 Blomberg to talk about skylights.

4 MR. BLOMBERG: You're changing the
5 subject to lighting.

6 MS. SHAPIRO: Yes. We're going to do --
7 Pat, you'll be tailored lighting after Jerry,
8 okay?

9 MR. BLOMBERG: Okay, I would like to
10 address the issue of the area requirements and the
11 ceiling height requirements for mandating
12 daylighting with skylights.

13 And the logic of the 25,000 square feet
14 has to be on the cost of controls or it wouldn't
15 make a lot of sense to have it that large, to say
16 it would have to be that big before it would be
17 cost effective.

18 And so my feeling is that the cost of
19 controls in the analysis was too high. And
20 therefore it could be reduced to a smaller area.
21 And it can go clear down to 10,000 square feet.

22 In fact, we've been trying to develop a
23 program for daylighting schools. And in order to
24 get it cost effective the cost of controls in 1000
25 square feet has to be quite low.

1 And therefore that same technology could
2 go into daylighting smaller spaces and making it
3 cost effective.

4 So I'd like the Commissioners and the
5 staff to consider that and see if you're doing the
6 right thing for the mandate of saying that you're
7 to adopt standards that are cost effective.

8 And the other deal is on the ceiling
9 height. The rationale of 15 feet high would have
10 to be on the appropriate size of the skylight to
11 light the space evenly, and the height requirement
12 would be to do that.

13 Well, you can use a 4-by-4 skylight in a
14 12-foot high ceiling which would be a cost
15 effective size for a skylight installation. And
16 it would be evenly distributed with a 12-foot high
17 ceiling. So the ceiling height could be lowered,
18 as well.

19 And then there's one other aspect that
20 is how do you deal with a shell building that has
21 no lighting design in it when the permit is taken
22 out, and therefore it has no requirement for
23 daylighting.

24 And it might be -- I mean it is, without
25 question, most cost effective to install the

1 skylights before the roof is put on rather than
2 cut holes in the roof afterwards.

3 So it might simplify the whole deal to
4 just mandate skylights in large buildings that
5 don't have a particular use. And then just
6 eliminate that minimum connected lighting load.

7 And so that's my main issue. And if
8 anybody has any challenges to that I'm happy to
9 listen.

10 PRESIDING MEMBER PERNELL: Any response?

11 MR. PENNINGTON: I'm wondering if Jim
12 McHugh could -- Jon McHugh, how about Jon, your
13 brother?

14 (Laughter.)

15 MR. PENNINGTON: Whichever.

16 MR. MCHUGH: That is my brother's name.

17 MR. PENNINGTON: Oh, really? Well,
18 let's have Jon McHugh come up and talk about his
19 analysis.

20 MR. MCHUGH: Jon McHugh, Heschong Mahone
21 Group. I appreciate the comments that Jerry's
22 brought here. He and the rest of the skylighting
23 industry have brought, what I think is, a very
24 cost effective form of solar lighting.

25 And my thought about this is that this

1 proposal here is actually quite revolutionary in
2 terms of energy standards. Every other energy
3 standard in the country treats skylights as a --
4 they're trying to minimize the harm from
5 skylights. And these proposed standards would
6 actually look at skylights as an energy saving
7 feature of the building.

8 You know, Jerry's correct that in taking
9 this step we've been conservative. We've been
10 conservative in the cost of controls, conservative
11 in the cost of skylights.

12 So as a result we have a code change
13 proposal that really changes the way that people
14 think about designing buildings. And it has been
15 structured to be very cost effective and to have
16 essentially minimal problems in implementation.

17 You know, if our goal was to maximize
18 energy savings, Jerry's absolutely right. But if
19 what our goal is is to make an incremental change,
20 in some ways qualitatively change design of
21 buildings, I think this is actually the right way
22 to go. Which is attacking the building types
23 where skylighting is most cost effective.

24 And by having higher ceiling heights
25 you're allowed to use larger skylights, provide

1 fewer penetrations and actually increase the cost
2 effectiveness of skylighting, as compared to the
3 other locations that Jerry's talking about.

4 So, we have targeted sort of a slam-dunk
5 approach to skylighting, the very easiest places
6 to skylight. And it is my hope that these code
7 change proposals will also transform the
8 marketplace in terms of expanding the opportunity
9 for skylighting in these other occupancies. And I
10 think the schools are, indeed, one of those
11 occupancies.

12 MS. SHAPIRO: I have a question, Jon.
13 Could we -- would it be cost effective to, in a
14 building that met the size requirement and the
15 ceiling requirement but didn't have its lighting
16 in yet, to require the skylight when it was cheap
17 to do. And then require the controls when they
18 put in their electric lighting? Would that work?

19 MR. McHUGH: Yeah, that's a good
20 question. So the question is if we don't -- the
21 question really goes back to a core and shell
22 building where we've built a building; it doesn't
23 have any lighting in the building at that point in
24 time. And it's maybe questionable what the tenant
25 improvement is going to be.

1 And so the question is do we actually --
2 I mean it's certainly cheaper to install skylights
3 at that point. But what if it's actually broken
4 up into small little spaces, and we have
5 essentially dropped ceilings that are well below
6 the 15-foot height.

7 So, I had an email discussion with Bill
8 and kind of confirmed what my thought was about
9 how this would work, is that when the core and
10 shell building is built, or the shell of the
11 building is built, that building is essentially
12 officially unconditioned.

13 The first tenant improvement changes the
14 category from unconditioned to conditioned, and
15 that tenant improvement is considered new
16 construction.

17 At that point they're required to put in
18 the skylights if indeed that tenant improvement is
19 high ceiling heights and large open spaces.

20 MS. SHAPIRO: But then it doesn't -- it
21 isn't as cost effective.

22 MR. BLOMBERG: That's not cost
23 effective. So the person who is building the
24 shell has to make the decision, because when they
25 sell that to let's say a big box retail site,

1 there's going to be all this cost invoked.

2 Well, ideally they think about who their
3 target market is. Are they actually trying to
4 sell this shell to spaces that actually have lower
5 ceiling heights, or are they actually trying to
6 sell to a big box retail or something like that,
7 or a big warehouse. And they have to make that
8 decision.

9 MR. PENNINGTON: Rosella, this is a
10 prescriptive requirement. So if someone finds
11 themselves in a fix to do this, they have a
12 performance approach out.

13 MS. SHAPIRO: I just like skylights.

14 PRESIDING MEMBER PERNELL: All right. I
15 think Jerry wants to comment on your comment.

16 MR. BLOMBERG: Well, it's really
17 something I forgot to say earlier. And that is
18 that daylighting makes a humongous loophole for
19 any other energy efficient design, if you take and
20 use an energy budget to calculation.

21 So, if you want, you know, inefficient
22 equipment, less insulation, just daylight the
23 space and save the lighting energy. And you've
24 got this great big loophole.

25 So I don't know, it seems to me that we

1 just address the whole deal and put the skylights
2 in. And when you go to have a tenant improvement,
3 when they find out that there's all this great
4 light in the space, they won't put in as much
5 connected lighting load, because they won't need
6 it. And it'll just be a more efficient building.

7 So, anyway, to address -- the Energy
8 Commission didn't have the mandate to deal with
9 daylighting for a number of years. Now you need
10 to make up for lost time. If we would have
11 started this 20 years ago, we would have had all
12 this evolutionary steps taken, and we could
13 address these smaller spaces and lower ceilings.

14 PRESIDING MEMBER PERNELL: Thank you.

15 MS. SHAPIRO: Anybody else want to come
16 and talk to skylighting? Okay, tailored lighting,
17 back to Pat.

18 MR. SPLITT: Pat Splitt from AppTech. I
19 notice actually the first changes actually in the
20 area category method; it's on page 118. The first
21 line for area category method.

22 It says under the area category method
23 the total allowed lighting power for the entire
24 building is blah, blah, blah. Entire should be
25 stricken. Because the area category obviously can

1 be used for parts of the building; you don't have
2 to do it for the whole building.

3 PRESIDING MEMBER PERNELL: All right,
4 that's a suggested change in wording?

5 MR. SPLITT: So the change is just to
6 delete the word entire from there.

7 MS. SHAPIRO: Do you want to go on with
8 the rest of your entire --

9 MR. SPLITT: Yeah. Then on the next
10 page, for tailored method there's a couple more
11 instances in here where entire comes in for
12 building when it should be deleted.

13 In your glossary or definitions you have
14 a specific definition of entire building. And it
15 means the complete building, conditioned and
16 unconditioned space. So whenever the term entire
17 building comes in, that's what you mean.

18 So if we're not talking about that,
19 we're talking about a part of the building, then
20 we have to delete the word entire.

21 So under tailored method, the first
22 sentence, delete entire.

23 Then in the first line of the exception
24 one, entire building comes up again. Then the
25 second line of exception two, entire building.

1 All those entries should be deleted.

2 MS. SHAPIRO: Thank you, Pat.

3 MR. SPLITT: Okay, and then --

4 MS. SHAPIRO: Pat, while -- oh, do you
5 have another one?

6 MR. SPLITT: Well, I've got a bunch of
7 tailored lighting.

8 MS. SHAPIRO: Oh, I'm sorry, I thought
9 you were done. I thought I was tracking you on
10 your letter. Go ahead.

11 MR. SPLITT: Okay, a little further
12 down, then, it describes how to do the tailored
13 lighting procedure. And it references where
14 you're supposed to look up categories in the IES
15 design guide. It says to look for the horizontal
16 illumination number.

17 Well, there are tables in there, most of
18 the tables have two columns, a horizontal
19 illuminance and the vertical illuminance. And you
20 pick up a number, letter D or E or whatever, and
21 then you can figure out how many watts per square
22 foot and multiply it by the floor area.

23 But in the industrial section they don't
24 have a horizontal illuminance column. They has a
25 task illuminance column. So in order to get a

1 number for an industrial type of use, you can't
2 get a horizontal because it doesn't exist.

3 So, one, we have to either say just
4 delete the word horizontal, just say illuminance
5 column, whatever it happens to be.

6 And then the question comes up, well, if
7 you do have a task that's basically vertical
8 illuminance, what area do you really multiply that
9 by to get your budget. So it really hasn't been
10 defined. So I think for those types of uses we
11 need a little bit more work.

12 So, it could go a couple of different
13 ways, but at any rate, right now there's that
14 whole section that doesn't have a column that
15 you're referring to, so something has to be done.

16 PRESIDING MEMBER PERNELL: Okay.

17 MR. SPLITT: Okay, and then, finally for
18 just in general in tailored lighting it seems like
19 you really cut down when it can be used. And I
20 think you cut down a little bit too much, saying
21 that it can only be used for 30 percent of a
22 space, or if one area is over 30 percent you can
23 do whatever that area is, but all the rest has to
24 be area category.

25 Well, a lot of times when you're doing a

1 design for a TI, you're not doing the whole
2 building, but you're just spiffing up part of the
3 building for a new tenant or something like that,
4 you may have one large space which is the main
5 task, maybe it's an auditorium, something like
6 that. But there's almost always some sort of in-
7 transit area, a lobby or something like that, that
8 you also want to put in a lot of decorative
9 lighting. And right now there's no way of doing
10 that.

11 So what I'm suggesting is that in the
12 tailored lighting that we have where part of it
13 you're using the tailored method and the other
14 part you're using area category, that we allow for
15 one of those areas that you also be able to take
16 credit for ornamental and special effects
17 lighting.

18 And it would be just like any other use
19 of that classification, is use it or lose it; you
20 can't trade it off against anything else. But it
21 seems like this would come up a lot, where you'd
22 need that other little -- you have that one other
23 little section that you really want to put some
24 stylish lighting in. You can't if you just go to
25 area category. There should be a way of doing it.

1 So I was going to suggest .7 watts a
2 square foot so we could -- you don't get it down
3 to .5, but I'd just start with .5 watts a square
4 foot for one area.

5 And that's it.

6 MS. SHAPIRO: I didn't see those last
7 tailored lighting ones in the comments that you
8 made.

9 MR. SPLITT: Well, it just came up.

10 MS. SHAPIRO: Oh, okay. I just wanted
11 to make sure I wasn't missing a page or something.

12 MR. SPLITT: We've been chit-chatting
13 about how to come up with an alternative, but we
14 haven't really come up with one yet, so I just
15 wanted to --

16 MS. SHAPIRO: Does anyone want to
17 respond?

18 MR. PENNINGTON: I think we'd like to
19 talk to Pat --

20 MS. SHAPIRO: Offline.

21 MR. PENNINGTON: -- after the hearing.

22 MS. SHAPIRO: Okay.

23 PRESIDING MEMBER PERNELL: All right.
24 Sounds like you all got a lot to talk about.

25 MS. SHAPIRO: Pat, don't go down,

1 because while you're up there let's get your heat
2 pump modeling comment in, too.

3 MR. SPLITT: Oh, okay. All right, this
4 is in the ACM now. You mentioned making some
5 changes, but I hadn't enough time to decipher what
6 changes you made to this.

7 But the problem that I've seen, this is
8 again when I was doing plan checking --

9 MR. PENNINGTON: Pat, we have tried to
10 respond to this comment. And that's in what we
11 drafted for 15-day language, the first draft of
12 it. So, --

13 MR. SPLITT: Okay, so they're --

14 MR. PENNINGTON: -- we probably need to
15 talk to you about that.

16 MR. SPLITT: So there will be a way of
17 penalizing people who --

18 MR. PENNINGTON: Yeah.

19 MR. SPLITT: -- try to use just
20 repeating for most of the heat pump --

21 MR. PENNINGTON: Jon Leber could explain
22 that to you a little bit offline.

23 MR. SPLITT: So we did -- we got it.

24 PRESIDING MEMBER PERNELL: Okay.

25 MS. SHAPIRO: Oh, good. Okay.

1 PRESIDING MEMBER PERNELL: Thank you.

2 MS. SHAPIRO: W. Lee Shoemaker on cool
3 roof.

4 MR. SHOEMAKER: Good afternoon.

5 PRESIDING MEMBER PERNELL: Good
6 afternoon.

7 MR. SHOEMAKER: My name is Lee
8 Shoemaker; I'm the Director of Research and
9 Engineering for the Metal Building Manufacturers
10 Association. And I'm also here representing the
11 Cool Metal Roof Coalition.

12 I have a written statement that I'd like
13 to distribute. I assume this would be part of the
14 record so I don't have to read this whole thing,
15 just hit the highlights?

16 MS. SHAPIRO: You got it.

17 MR. SHOEMAKER: Thank you. We
18 appreciate the opportunity to address the Energy
19 Efficiency Committee through this hearing.
20 Specifically we wish to raise concerns about the
21 cool roof provisions of the proposed energy code.

22 We understand that these provisions are
23 intended to reduce energy consumption and conserve
24 energy resources, however we do not feel that all
25 the pertinent energy and environmental factors

1 have been considered, and the potential code
2 induced shift from metal roofing to other forms of
3 construction could actually increase energy
4 consumption, waste energy resources and adversely
5 affect the environment.

6 Metal roofs currently are penalized by
7 the proposed cool roof provisions. Metal roofs
8 can either be painted or unpainted. Typically for
9 low-slope applications metal roofs are unpainted.
10 Metallic coatings have been developed and improved
11 over the years for the very purpose of not
12 requiring the expense of a painted coating.

13 Producing a metal roof from a prepainted
14 steel coil would increase the cost of the metal
15 roof by around 25 cents per square foot, keeping
16 in mind that a metallic coating is still required
17 before the paint is applied to the steel to
18 provide the necessary corrosion protection.

19 Therefore, if the cool roof provisions
20 require normally unpainted metal roof to be
21 painted, the cost impact could have serious
22 competitive ramifications regarding the selection
23 of a metal roof or a metal building with a metal
24 roof.

25 The prescriptive requirements for cool

1 roofs in the proposed energy code call for an
2 initial reflectance value of 0.70, and an initial
3 emittance of 0.75. There's also an allowance for
4 a low emittance cool roof with a higher
5 reflectance.

6 This low emittance cool roof provision
7 was specifically included for metallic coated
8 roofs, but as it stands typical metal roofing
9 would not achieve the required reflectance, given
10 the measured values of the initial emittance that
11 they possess.

12 The procedure for developing the
13 criteria for low emittance cool roofs assumes that
14 the degradation of the initial reflectance is the
15 same for all roof materials.

16 We wish to point out that this
17 assumption ignores one of the key advantages that
18 a metal roof provides. The degradation and the
19 reflectance for a metal roof has been demonstrated
20 to be potentially much less than other roofing
21 materials.

22 As a matter of fact, field tests at
23 Oakridge National Laboratory and other sites have
24 shown that painted metal roofs lost only 5 percent
25 of their initial reflectance in a three-year

1 environmental exposure. Likewise, unpainted metal
2 roofs have lost only 10 percent of initial
3 reflectance over a three-year environmental
4 exposure.

5 This is contrasted with some roofing
6 materials that have demonstrated as much as a 30
7 percent degradation of reflectance in the first
8 year as reported in the literature.

9 In addition to the slower degradation of
10 reflectance, unpainted metal roofs have typically
11 demonstrated an increase emissivity. And we've
12 run through some numbers there in the written
13 statement that compare two different scenarios, an
14 unpainted metal roof and a membrane roof material.

15 And if you factor in the degradation of
16 reflectance that I just indicated, you essentially
17 come up with the same temperature in the roof,
18 going through the same calculations that were used
19 to come up with the proposed regulations.

20 So I won't go through those here, but I
21 would ask the staff to review that and see if they
22 agree with that assessment.

23 But this shows that a roof that would
24 currently not qualify under the prescriptive
25 requirement, the unpainted metal roof, could have

1 essentially the same long-term cool roof
2 properties as exhibited by the roof temperature
3 calculations that are provided.

4 Given this reasonable comparison with
5 regard to the assumptions taken, we strongly
6 suggest that this is not a sound basis for
7 imposing a code provision that would tend to
8 eliminate a roofing product from the marketplace
9 when both products have the same impact on energy
10 needed to cool the building.

11 Considering the virtually identical
12 performance and other significant benefits that
13 I'm about to outline, metal roofing can provide.
14 This does not seem to be a prudent decision.

15 We also think that the decision to use
16 the same prescriptive cool roof requirements in
17 all 16 climate zones is a simplification that
18 negates the potential benefits that a less
19 emissive roof provides in decreased consumption of
20 building heating energy in the colder regions of
21 the state.

22 We are aware that the proposed code
23 provides a performance approach in lieu of the
24 prescriptive requirements; however, it does not
25 appear that the energy budget method is permitted

1 unless the cool roof meets the prescriptive
2 requirements for reflectance and emittance
3 values. This would currently preclude its
4 use for unpainted metal roofs.

5 We're in the process of soliciting
6 proposals to assess if and how these performance
7 procedures could be used, and the resulting impact
8 on the overall building performance and costs.

9 Some of the benefits of metal roofs I'd
10 like to draw your attention to that we don't think
11 have really been taken into account in the overall
12 analysis of the cool roof issue, metal roofing has
13 a minimum of 25 percent recycled content, and is
14 100 percent recyclable at the end of its life.
15 This means that energy was saved in the process of
16 making metal roofing, and the additional energy
17 will be saved when future products are made from
18 roofing materials that have been demolished for
19 recycling. Few, if any, other materials can make
20 similar credible claims.

21 Metal roofing materials are not
22 relegated to disposal and landfill at the end of
23 life, thus saving valuable landfill space.
24 Instead for recycling, these materials are
25 diverted from the solid waste stream to become new

1 recycled content products that provide value to
2 society and future generations.

3 Metal roofing materials are strong,
4 durable, and dimensionally stable, thus affording
5 them a very long service life, surviving the span
6 of numerous decades in extremes of weather
7 including temperature, wind, rain and hail. This
8 means that the cost and energy of more frequent
9 installation of replacement roofing is avoided, as
10 well as the cost and energy of manufacturing
11 replacement roofing and transporting it to the job
12 site.

13 Metal roofs are also one of the lightest
14 roofing materials available, which means seismic
15 loads are lower --

16 MS. SHAPIRO: Lee, you're reading it
17 now. Now, you said you were going to summarize.
18 I don't want you to read us this whole letter.

19 MR. SHOEMAKER: Okay.

20 MS. SHAPIRO: We've got it in front of
21 us; it's in the record.

22 MR. SHOEMAKER: Okay. Let me just make
23 one point, and that has to do with the use of the
24 Cool Roof Rating Council as the sole --

25 MS. SHAPIRO: Okay, that's --

1 MR. SHOEMAKER: Okay. We've been
2 participants in the Cool Roof Rating Council
3 activities. Our Coalition member are members of
4 the Council. However, we don't agree with the
5 proposed policy that would not permit the use of
6 independently certified test results.

7 To allow only test results from CRRC
8 accredited independent testing agencies introduces
9 the potential for much greater costs. Many member
10 companies of our Coalition have high quality ISO-
11 certified test labs. And as long as they meet the
12 NSA requirements spelled out in the energy code,
13 we feel they should be permitted.

14 It also just doesn't seem reasonable
15 that the other AST tests that our manufacturers
16 are required to carry out and certify for the
17 building code, which include very important items
18 which affect public safety, are permitted. But in
19 this case for cool roofs only CRRC-certified
20 laboratories are the option.

21 Thanks very much for listening to these
22 concerns. And we --

23 MS. SHAPIRO: I didn't mean to cut you
24 off. You can say the different points. I mean
25 you've got the thing about the code is too complex

1 and stuff. I just didn't want you to read the
2 letter, since --

3 MR. SHOEMAKER: Okay.

4 MS. SHAPIRO: -- you were going to
5 summarize.

6 MR. SHOEMAKER: Fair enough.

7 MS. SHAPIRO: You can say all your
8 points.

9 MR. SHOEMAKER: Okay. Thank you. The
10 one point that I did skip over, thank you, was our
11 opinion that the code is extremely complex. As we
12 reviewed various versions of the code to try to
13 figure out how it would impact our products, we
14 always had difficulty trying to figure out exactly
15 how it applies.

16 Usually the target audience for codes
17 are building officials, architects, specifiers,
18 and it seems like this code is really directed
19 towards energy experts. And it seems even in this
20 room, the experts in this room today are having
21 disagreements over what, you know, the
22 requirements are.

23 PRESIDING MEMBER PERNELL: That's what
24 experts and attorneys do, disagree.

25 MR. SHOEMAKER: And one specific item

1 that we would like to see clarified, if possible,
2 is whether the prescriptive cool roof requirements
3 apply to unconditioned buildings.

4 Now, it's our understanding that they
5 don't now that we've had some further discussions,
6 but we don't think that that's totally clear. And
7 if you have a building that has some conditioned
8 space, some unconditioned space, is that clear
9 that you would not be required to have a
10 prescriptive cool roof over the unconditioned part
11 of the building.

12 So any way that these sorts of things
13 can be clarified, we certainly would appreciate
14 and feel like the intent would be better carried
15 out in the building community.

16 PRESIDING MEMBER PERNELL: Let us try
17 and get an answer to your last question.

18 MR. PENNINGTON: There's no requirement
19 for cool roofs for unconditioned buildings.

20 PRESIDING MEMBER PERNELL: Bill, is your
21 mike on?

22 MR. PENNINGTON: Yes, it is. There's no
23 requirement for cool roofs for unconditioned
24 buildings. You made another statement earlier
25 that you didn't think that you could use the

1 performance approach --

2 MR. SHOEMAKER: Right.

3 MR. PENNINGTON: -- unless you met the
4 requirements of section 118. That's not correct.

5 MR. SHOEMAKER: Well, as I looked at the
6 energy budget eligibility, it seemed to me it went
7 back and said you had to meet the requirements of
8 the prescriptive to use this procedure. Now --

9 MR. PENNINGTON: That gets back to this
10 standard building language.

11 MR. SHOEMAKER: Right.

12 MR. PENNINGTON: Do you want to explain
13 that, Charles, again?

14 MR. ELEY: Well, it's kind of the same
15 issue as with water-cooled chillers. The standard
16 design has a cool roof. Your proposed design
17 doesn't have to have a cool roof, but you have to
18 use equal energy or less energy.

19 And with the building envelope there's
20 actually two approaches. You can use the envelope
21 component tradeoff method, which just looks at the
22 envelope. Or you can use the whole building
23 envelope tradeoff method, where you're factoring
24 in the efficiency and the lighting system and the
25 HVAC system.

1 MR. SHOEMAKER: Um-hum.

2 MR. ELEY: So it's not a mandatory
3 requirement; it's a prescriptive requirement. And
4 as such you can made tradeoffs.

5 MR. SHOEMAKER: Okay, thank you.

6 MR. PENNINGTON: One other comment you
7 made about having the same basic requirement for
8 all climate zones. The analysis that was done
9 determined cool roofs to be cost effective in all
10 climate zones.

11 In the case of climates that are milder
12 or don't have as much cooling impact, it actually
13 would be easier for a noncool product to be used
14 in the performance analysis.

15 If you're in the desert and the basis of
16 your energy budget is a cool roof, then you're
17 going to have to, you know, if you miss it you're
18 going to have to do something fairly significant.

19 MR. SHOEMAKER: Right.

20 MR. PENNINGTON: But if you're in a
21 climate with a lot lower cooling energy, if the
22 basis of your budget is cool roof, you have less
23 to make up there. Do you see what I mean?

24 MR. SHOEMAKER: Yeah, I see that. I
25 think our concern was with the prescriptive

1 requirement. And while California has other
2 options that recognize, you know, that advantage
3 in those areas, you know, California is really
4 kind of setting a trend here, we think, in cool
5 roofs.

6 And we've already seen in
7 specifications, you know, we want this building to
8 have a California cool roof. Now, if this is a
9 northern climate -- and then they go back to
10 prescriptive requirements and say, no, this is
11 what, I want this prescriptive roof that
12 California is saying.

13 I mean, that's why we feel like ignoring
14 that in the prescriptive requirements opens up the
15 door for a lot of misunderstanding about the
16 advantages of having a low emittance roof in, you
17 know, some northern climates.

18 MR. PENNINGTON: There also is a
19 tradeoff method in the prescriptive approach that
20 would allow for metallic roofs to, you know, to
21 make it. That might be -- I'm not sure how
22 difficult it is for very low emittance roofs.

23 MR. SHOEMAKER: Are you talking about
24 the alternate equation for --

25 MR. PENNINGTON: Yes.

1 MR. SHOEMAKER: The reflectance is so
2 high it's really unattainable for what we're
3 looking at.

4 MR. PENNINGTON: For unpainted, you're
5 saying?

6 MR. SHOEMAKER: Right.

7 MR. PENNINGTON: But if you put on a --
8 if you are at .70, or whatever, reflectance,
9 whatever you say you can get with a coating, but
10 your emittance is still not --

11 MR. SHOEMAKER: Actually with the
12 coating the emittance goes up. That's not a
13 problem then.

14 MR. PENNINGTON: So that's not a problem
15 at all?

16 MR. SHOEMAKER: Yeah.

17 MS. SHAPIRO: Mike Gabel, do you want to
18 speak on cool roofs, please.

19 MR. GABEL: Mike Gabel, CABEC. To
20 address this metallic roof speaker, to support
21 staff, the actual magnitude of this effect in most
22 climate zones in practice is actually very small.
23 In very few climates, like Palm Desert, has some
24 effect. But in performance approach or in the
25 prescriptive approach you can overcome it, in

1 fact, fairly easily with other measures. That's
2 our experience.

3 MS. SHAPIRO: Thank you. Okay. New
4 topic, Steve Blanc.

5 PRESIDING MEMBER PERNELL: All right,
6 let me just -- are we on outdoor lighting?

7 MS. SHAPIRO: No, no, we're still on
8 nonres, but just a new part of nonres.

9 PRESIDING MEMBER PERNELL: Oh.

10 MS. SHAPIRO: Sorry, I wasn't --

11 PRESIDING MEMBER PERNELL: Same
12 category.

13 MS. SHAPIRO: Same category, different
14 topic within this category. Steve.

15 MR. BLANC: Good afternoon. Steve
16 Blanc, Pacific Gas and Electric Company. I just
17 wanted to create a small change of pace by letting
18 you know that our company is both on the record
19 and, with its own resources, supporting CEC's code
20 revisions. And that we fully support the work
21 that has been done by both the staff and the
22 Commissioners in this vein, and will continue to
23 do so.

24 MS. SHAPIRO: Thank you.

25 PRESIDING MEMBER PERNELL: Well, thank

1 you; that is refreshing news.

2 (Laughter.)

3 MS. SHAPIRO: Hey, wait a minute, let's
4 see, is Jim Parks still here? Jim Parks wrote on
5 his topic, "praise for the Commission" for this
6 one, so --

7 (Laughter.)

8 MS. SHAPIRO: I have one last card for
9 nonres. This is it, we're going to let one person
10 speak. If you want to speak and you don't have a
11 card by the time he's finished speaking, the topic
12 will be closed.

13 Doug Mahone, will you come up and say,
14 talk to us, please.

15 MR. MAHONE: I'll make it quick. I
16 suppose this would be in the category of praise
17 for the Commission, as well.

18 I had the privilege of helping to
19 organize a team of energy experts that generated
20 many of these proposals that were funded by PG&E.
21 Things like time dependent valuation, the
22 residential lighting proposal, the relocatable
23 classroom, the air conditioning equipment
24 performance modeling methods and so forth.

25 I just wanted to emphasize what a

1 contrast this is to the way other standards get
2 developed, or even the way it used to be done
3 around here, where it would be sort of a small
4 group of experts kind of sitting around a table
5 sort of positing their best judgment about what we
6 ought to do here. If there was analysis done it
7 was typically just limited to minimal cost
8 effectiveness.

9 In this round of the standards I think
10 the Commission has set a whole new precedent where
11 the proposals that were put forth were asked to
12 not only be cost effective, they were asked to
13 account for market conditions, demonstrate that
14 the measures were ready for prime time, that the
15 market was mature enough, that it was enforceable.

16 We were asked to not only draft code
17 language, but deal with stakeholders as proposals
18 were developed. There was substantial public
19 process. And I think that's one of the reasons
20 why this whole round of standards has been, in
21 many ways, more rational, more open, more fair
22 than most standard setting processes that I've
23 ever been involved with.

24 So, I just wanted to compliment the
25 Commission on moving not only the standards

1 forward, but the process for generating the
2 standards.

3 Thank you.

4 PRESIDING MEMBER PERNELL: All right,
5 thank you.

6 MS. SHAPIRO: I notice a number of
7 people have come into the room who were not here
8 before. And I'm getting some cards with very
9 general topics. If you weren't here earlier you
10 might now know that for the next topic you must
11 have a yellow card, and you must have one subject
12 per card. You can have as many cards as you want,
13 but we want to organize it by topic and subject.

14 So, if you don't have a card up here, I
15 won't call on you. And if you have too many
16 topics on your card I will cut you off and tell
17 you to get another card.

18 So, with that warning, --

19 PRESIDING MEMBER PERNELL: All right.
20 Just before we jump to the next phase or next
21 topic area, I want to be sure before we leave
22 nonres is there anyone else who wants to speak on
23 nonres?

24 Okay, hearing none, we'll move on.
25 Rosella.

1 MS. SHAPIRO: Well, we're going to first
2 have a presentation, I think, if Charles is ready.

3 PRESIDING MEMBER PERNELL: Okay.

4 MS. SHAPIRO: Oh, it's going to be Jim.
5 Who's going to give the --

6 PRESIDING MEMBER PERNELL: Why don't we
7 have Mr. Pennington introduce who's going to do
8 the next presentation.

9 MR. PENNINGTON: This is surprising to
10 you, but Charles is going to present the slides on
11 outdoor lighting.

12 (Laughter.)

13 PRESIDING MEMBER PERNELL: Well, we
14 weren't sure, so. Can we dim the lights a little
15 bit?

16 MS. SHAPIRO: Elaine, the light. Thank
17 you, --

18 MR. ELEY: Okay, we're moving on to
19 outdoor lighting. Outdoor lighting is a new area
20 for the standards. We've never had standards
21 before on this. Senate Bill 5X gave the
22 Commission the authority to develop standards for
23 outdoor lighting for the first time.

24 The standards have power limits on
25 outdoor lighting applications. The first group of

1 power limits are what we've termed general site
2 illumination. And these include hardscape areas
3 for automobiles, which are parking lots,
4 driveways; hardscape areas for pedestrians;
5 building entrances; and outdoor sales lots. These
6 can be traded off against each other.

7 In addition to these, there's power
8 limits for specific lighting applications like
9 building facades; sales frontage, this would be
10 the first row in the auto lots; service station
11 canopies and so forth.

12 These are, in lighting parlance, use-it-
13 or-lose-it type allowances. The power you get for
14 these allowances can't be shifted to some other
15 type of application.

16 So when we talk about the general site
17 illumination and specific applications, keep those
18 distinctions in mind.

19 The standards recognize four lighting
20 zones. And these are to lighting sort of like the
21 climate zones are to insulation and thermal
22 conditions.

23 Lighting zone 1 are areas that are
24 inherently very dark. These include national
25 parks, recreational areas, wildlife preserves and

1 so forth. And the lighting power allowed in these
2 areas is the lowest because there's less contrast.
3 The eye is already adapted to dark conditions; and
4 you only need just a little bit more light to
5 provide good quality illumination.

6 Lighting zone 2 includes all of the
7 areas in California that the census bureau
8 designates as rural. And there are specific metes
9 and bounds boundaries where these rural areas are.
10 And more lighting power is permitted in lighting
11 zone 2.

12 Lighting zone 3 are areas that the
13 census bureau designates as urban areas. And a
14 little more lighting power yet is allowed in these
15 areas.

16 Lighting zone 4 is a special
17 designation; and local jurisdictions can designate
18 a portion of their community as lighting zone 4.
19 These we envision as entertainment centers or
20 areas like maybe Polk Street are in San Francisco,
21 or Castro, or, you know, the Market Street area.

22 There are some limits on that. Jurisdictions
23 can only designate up to 20 percent of the area
24 for that.

25 There's some controls for outdoor

1 lighting, basically -- these are really not that
2 new. They've been around for awhile. You have to
3 have a photo switch or an astronomical time clock
4 that will turn the lighting off when it's not
5 needed.

6 And some lighting applications require
7 an automatic time switch that reduces lighting
8 power to 50 percent, or not exceeding 80 percent.
9 This is sort of the outdoor lighting equivalent to
10 the bilevel illumination requirement in indoor
11 applications.

12 There's a requirement for cutoff
13 luminaires. We're not talking about full cutoff
14 luminaires, but a cutoff luminaire where the
15 candellas that go above the horizon are less than
16 2.5 percent of the total. This requirement is for
17 luminaires that are 175 watts or larger than 175
18 watts. If it's 175 watts, the requirement does
19 not apply. It has to be larger than 175 watts.

20 And then there's requirements for signs
21 and billboards. There's really two ways to meet
22 these particular requirements. The first
23 requirement is to calculate the surface area of
24 the sign, and for internally illuminated signs the
25 power limit is 12 watts per square foot. And for

1 externally illuminated signs, it's 2.3 watts per
2 square foot. These do not vary by lighting zone.
3 They're the same numbers for all lighting zones.

4 Now, there's also a deemed-to-comply
5 approach here. You can use efficient light
6 sources and electronic ballasts. And if you do
7 that you're deemed to comply no matter what your
8 lighting power. So this may be the choice that
9 some sign manufacturers will take to meet the
10 requirements, especially if it's perhaps unusual
11 situations like a two-sided sign or other kinds of
12 conditions.

13 So, I think that's -- I guess there's a
14 few picture here. And I'll stop there. I want to
15 recognize Jim Benya, who has worked really hard
16 with this, as well as Mazi Shirakh and Gary Flamm
17 and others.

18 So we'll hear the 15-day language
19 changes and take questions.

20 PRESIDING MEMBER PERNELL: All right,
21 lights, please.

22 MR. PENNINGTON: So in terms of the
23 first draft of the 15-day language changes, on
24 page 90 there's one item. This is intended to
25 clarify how you get a lighting power density for

1 service stations if you have the rare situation of
2 having -- only dispensing fuel on the one side of
3 the dispenser. So that's a clarification of that.

4 MS. SHAPIRO: And that's it? You're
5 ready for questions?

6 MR. PENNINGTON: Yes.

7 PRESIDING MEMBER PERNELL: Okay, we're
8 ready.

9 MS. SHAPIRO: Okay, John Page.

10 MR. PAGE: My name is John Page; I'm
11 with LSI Industries. We're a manufacturer of
12 lighting products that specialize in the service
13 station applications. And what we'd like to deal
14 with specifically is the power density allowances
15 being used for retail gasoline facilities.

16 One thing I'd like to recognize is the
17 letter written by Cheryl English with Acuity
18 Brands that was given to Mr. William Pennington,
19 dated September 2nd, that many issues in there are
20 identical to what our concerns are from a power
21 density and a lighting zone.

22 And so, we as a company, do go along
23 with what Cheryl has brought out in her points.
24 Can't talk specifically about it because we just
25 saw it before coming into this room.

1 The thing we'd like to do is apologize
2 to the Commission a little bit for coming in with
3 what appears to be the 11th hour. However, what
4 we were doing is we were relying upon the July
5 2002 models, as produced by Eley and Associates,
6 and some of the assumptions that were contained
7 within those models as being what was going to be
8 used for the final draft of these regulations.

9 What we are now -- we met this morning
10 for two hours with Mr. Jim Benya -- doing is
11 working through the issues that we have with the
12 power density. This is based on looking at the
13 models that were used, the power density, the
14 assumptions that were contained in the 2000 Eley
15 report that were not used in the most recent
16 models as far as -- appreciation and mean lumens.
17 And also looking at what's used as far as an
18 evaluation area to determine what is the average
19 illuminance underneath the service station canopy.

20 We also have concerns, and again these
21 are pointed out in Cheryl's letter of September
22 2nd, is that the lighting zones, as they're being
23 proposed, deal specifically with population --
24 with population be determined for basically
25 geographically only three zones.

1 Zone 1 with the parks. Zone 2 with
2 rural. And zone 3 being urban. That zone 4 does
3 not geographically exist and requires a very
4 lengthy process of a person having to go through
5 the local jurisdiction to petition back to the
6 California Energy Commission, which we feel is a
7 step that's not necessary. That there should be
8 lighting zones that more closely align with the
9 Illuminating Engineering Society lighting zones
10 for illuminance in an immediate area. And
11 population is not the same as illuminance in the
12 ambient areas.

13 We also would like to point out the fact
14 that without any of these regulations the
15 industry, itself, has in the last eight years,
16 been doing processes where they are currently
17 working to reduce the energy with the standards in
18 the service station area going from 400 watt
19 fixtures down to 320.

20 Nationally last year the energy savings
21 just from this self-imposed desire to get energy
22 savings was 860 million kilowatts of energy with
23 no requirements whatsoever by any regulatory body.

24 The language contained in this
25 regulation will force the local operators of

1 service stations, owners of service stations to
2 stop their current practice of implementing
3 today's known technology to save energy.

4 What it would do is it would cause in
5 the State of California 11,283 retail facilities
6 that are on their own today implementing energy
7 saving concepts will cease to do so if they're
8 forced to comply with the restrictions both in the
9 power density and the style of fixtures that this
10 document requires.

11 The last point I'd like to make, and I
12 do have a formal written letter that I'd like to
13 submit for the record, is that in some of the
14 preliminary data two statements were made is that
15 the power densities does not exceed the current
16 industry standards. That is not correct.

17 And the power densities allowed you to
18 obtain the IESNA recommendations in these areas.
19 And that's not correct. It's by shifting zones
20 around that we can come closer to that. But as
21 the document is written it would not allow current
22 existing facilities to comply with this document.

23 PRESIDING MEMBER PERNELL: Just probably
24 a clarification. Are you saying that the industry
25 voluntarily saves more energy than our regs would

1 allow them to save?

2 MR. PAGE: Very definitely. The
3 existing population in California saves 11,000-
4 plus facilities. This would apply currently to
5 new construction. New construction is less than
6 100 sites per year in California.

7 Because of the restrictive nature of
8 this document the voluntary compliance will stop.
9 What the local owner will do is choose to buy a
10 \$20 bulb to screw into his existing fixtures and
11 have no energy savings whatsoever, versus
12 complying with the regulations having to change
13 out all of his fixtures and going to light levels
14 that are approximately a third of what he
15 currently has.

16 PRESIDING MEMBER PERNELL: All right, so
17 our regulations requires everybody to change out
18 all their lights, is that what --

19 MR. PAGE: What the regulations say, if
20 you touch more than 50 percent of your lights, you
21 then must comply with the regulations.

22 PRESIDING MEMBER PERNELL: And your
23 assumption is --

24 MR. ELEY: But this is not relamping,
25 though.

1 MR. PAGE: It's not relamping, but what
2 it will do is currently people are modifying
3 equipment which is allowing them to get the 22 to
4 37 percent energy savings on a site. That will
5 stop and people will go and do nothing but relamp,
6 which will save no energy, in order to keep the
7 light levels they currently have.

8 And, as I say, that affects 11,000
9 sites. And this document will allow energy
10 savings at 100 sites that are built new to
11 industry in a year.

12 PRESIDING MEMBER PERNELL: Commissioner?

13 COMMISSIONER ROSENFELD: I have to tell
14 you I've sat here since, I don't know, 10:00 this
15 morning. And this is the most confusing set of
16 charges I've heard yet.

17 You tell me that they could voluntarily
18 cut lighting levels to a third, but they're not
19 going to do it?

20 MR. PAGE: No, power. They can cut
21 their power, now basically an existing facility
22 can cut their power consumption today by about 22
23 percent on their own, and that's currently what
24 they are doing.

25 COMMISSIONER ROSENFELD: That's great.

1 MR. PAGE: But if they go to the
2 regulations, the regulations will stop any
3 voluntary change in the existing community, and
4 there will be no --

5 COMMISSIONER ROSENFELD: And why is
6 that?

7 MR. PAGE: There's no advantage because
8 the regulations require a new style of fixture
9 than what currently exists, and requires them to
10 go to a much lower power density than they
11 currently have, which will yield --

12 COMMISSIONER ROSENFELD: And what's
13 wrong with a lower power density?

14 MR. PAGE: Well, they can comply with
15 it, but there will be no desire to comply with it
16 if they can, by only replacing a light bulb --

17 COMMISSIONER ROSENFELD: Are you telling
18 me that -- I don't believe you're telling me that
19 it's a desire of every gas station operator to
20 have three times more light than necessary.

21 MR. PAGE: He doesn't have three times
22 what is necessary. He --

23 COMMISSIONER ROSENFELD: Well, then why,
24 then why --

25 MR. PAGE: -- he likes what he has

1 today.

2 COMMISSIONER ROSENFELD: Then why are
3 people voluntarily going down to a third.

4 MR. PAGE: Because they're not lowering
5 their lighting levels, they're only lowering their
6 energy consumption --

7 COMMISSIONER ROSENFELD: You mean
8 efficiency has gone up 300 percent?

9 MR. PAGE: Please?

10 COMMISSIONER ROSENFELD: Efficiencies
11 have gone up 300 percent?

12 MR. PAGE: The efficiencies, taking an
13 existing lighting system that has dirt
14 accumulation and mean lamp depreciation and
15 putting in a new system, yes. You can have 400
16 percent just because of lumen depreciation.

17 PRESIDING MEMBER PERNELL: All right,
18 let's have --

19 MR. ELEY: Let me clarify on thing, if
20 I may.

21 PRESIDING MEMBER PERNELL: -- let's have
22 staff -- give staff a chance to rebut for a
23 minute.

24 MR. ELEY: There's, I think, one point
25 of confusion here. There's a requirement that

1 says that if you replace 50 percent of the
2 luminaires then the requirement is triggered.

3 However, if you don't change the
4 luminaires and all you do is change the lamp and
5 the ballast, which is what I think your people are
6 doing --

7 MR. PAGE: They're also changing the
8 optics.

9 COMMISSIONER ROSENFELD: That's good.

10 MR. ELEY: Well, you're still not
11 changing the luminaire.

12 MR. PAGE: Okay, now so you're saying as
13 long as the box remains --

14 MR. ELEY: Yeah. If the box is --

15 MR. PAGE: But nothing more than the
16 shell stays.

17 MR. ELEY: -- there, then you don't
18 trigger the requirement, and there's no problem I
19 don't think.

20 MR. PAGE: Okay, so as long as the shell
21 stays --

22 MR. ELEY: Right.

23 MR. PAGE: Okay.

24 MR. ELEY: Right. I mean you can change
25 the lens in a trougher, you can change the lamp,

1 you can change the ballast, you can do all three,
2 and you're not replacing the luminaire.

3 MR. PAGE: So as long as the physical
4 box stays --

5 MR. ELEY: Right.

6 MR. PAGE: Okay.

7 MR. ELEY: Right.

8 MR. PAGE: That's a clarification,
9 because in the language --

10 MR. ELEY: Staff -- Mazi agrees. You
11 agree with that?

12 MR. SHIRAKH: I'm going to check with
13 Cheryl --

14 MR. ELEY: Okay.

15 (Laughter.)

16 MR. PAGE: You know, and on the -- you
17 say on the language in the documentation where it
18 said for 50 percent of the fixtures are changed,
19 it wasn't --

20 MR. ELEY: But that means --

21 MR. PAGE: -- clear whether it was 50
22 percent --

23 MR. ELEY: -- that means taking out the
24 fixture and putting in a completely new one. Not
25 changing out the lamp, the ballast or the lens.

1 MR. PAGE: Okay, what wasn't clear was
2 changing 50 percent of the fixtures or 50 percent
3 of the content of the fixture.

4 MR. ELEY: No, it's 50 percent of the
5 fixture.

6 MR. BENYA: Just a comment. This is a,
7 you know, very unusual condition. If we were to
8 accept Mr. Page's argument we wouldn't have the
9 standard apply to any existing buildings at all,
10 because people who own buildings say, well, if I
11 change my building then I'm going to have to bring
12 it up to code, so I'm not going to change my
13 building.

14 This is an unusual situation because a
15 large significant portion to which this will apply
16 is already built and in operation. And the number
17 of new buildings, new gas stations being added is
18 relatively small.

19 So the issue is kind of unusual, but I
20 think Charles has nailed it on the head. It is
21 possible to retrofit existing lighting without
22 triggering the standard requirements. And I think
23 that may, in fact, resolve this issue.

24 MR. PAGE: It may, yes. If --

25 PRESIDING MEMBER PERNELL: Now that we

1 have that clarification, your 11,000 stations will
2 continue to save energy by doing the various
3 changes that you described earlier?

4 MR. PAGE: Yes, as long as they can keep
5 the -- you know, the definition is it keeps the
6 existing housing, yes.

7 MS. SHAPIRO: Well, we're looking
8 forward to seeing this great drop in electricity
9 use by gas stations.

10 MR. PAGE: You're seeing it.

11 PRESIDING MEMBER PERNELL: All right.
12 You know, this is one of the reasons we're having
13 hearings so that any misconception can be cleared
14 up. And if you have anything else, please
15 continue.

16 MR. PAGE: No, I'd say just a formal
17 submittal, who should that go to, as far as --

18 MS. SHAPIRO: Give it to Bryan here or
19 Bill.

20 MR. PAGE: Okay.

21 MR. PENNINGTON: Do you have any
22 comments, Jim, on any of this --

23 MR. BENYA: Just a comment or two about
24 Mr. Page's presentation, and then we'll probably
25 have a longer discussion after Ms. English has

1 made hers.

2 Both of them, as Mr. Page raised the
3 issue regarding the lighting zones and how they're
4 being used, and I'd like to, you know, focus on
5 that. We actually spent quite a bit of time this
6 morning going over this letter and his concerns.
7 And we resolved a lot of the issues on which there
8 were differences in opinion.

9 But a couple still remain, and I think
10 I'd like to defer that until after Ms. English has
11 presented, because, as he pointed out, they're
12 very similar.

13 PRESIDING MEMBER PERNELL: Okay.

14 MS. SHAPIRO: And Mazi wants to say
15 something.

16 PRESIDING MEMBER PERNELL: Thank you,
17 Mr. Page.

18 MR. PAGE: Thank you.

19 PRESIDING MEMBER PERNELL: Don't go
20 anywhere, you'll probably be called on again.

21 MR. PAGE: Okay.

22 MR. SHIRAKH: I'm Mazi Shirakh, CEC
23 Staff. I just wanted to briefly point out to this
24 alteration sections related to outdoor lighting on
25 page 137. It's the middle of the page, letter I.

1 And it says alteration to existing
2 lighting system that increase the connected
3 lighting load or replace more than 50 percent of
4 the luminaires, shall meet the requirements of
5 section 147.

6 It specifically says luminaires, which
7 means the entire fixture with the shell and all
8 the components. So I think that's very clear.
9 And that is a question we can probably address in
10 the manual, some clarification in question and
11 answer.

12 PRESIDING MEMBER PERNELL: Okay. Is
13 that Ms. English?

14 MS. SHAPIRO: Yes, it is. And you're
15 the next person.

16 PRESIDING MEMBER PERNELL: But do you
17 have a comment on this?

18 MS. SHAPIRO: It's on this topic, power.

19 MS. ENGLISH: I have another question on
20 this, though, because what Mazi has just
21 referenced, let's see if I can find it here --

22 MS. SHAPIRO: Page 137.

23 MS. ENGLISH: -- is an exemption to
24 section 147, which is the power density limits.
25 And if I'm interpreting Mr. Page's comments

1 appropriately, there's a concern in meeting the
2 optical cutoff criteria, as well, which is not
3 section 147.

4 MR. PENNINGTON: Well, it's not 147I,
5 but it is covered. The cutoff -- you're
6 correct, --

7 MS. ENGLISH: Well, optical cutoff is
8 section 132.

9 MR. PENNINGTON: Let me just clarify if
10 I could.

11 MS. ENGLISH: So we may want to suggest
12 modifications.

13 MR. ELEY: We don't want to trigger that
14 one, either, for retrofit --

15 PRESIDING MEMBER PERNELL: Mr.
16 Pennington, what page --

17 MS. ENGLISH: Based on the comments he
18 made, --

19 PRESIDING MEMBER PERNELL: -- are you
20 on?

21 MS. ENGLISH: -- I think you want to
22 continue to encourage existing --

23 MR. ELEY: Exactly.

24 MS. ENGLISH: -- renovations. So it
25 would make sense to me that you would want to

1 exempt it from both 147 and 132.

2 MR. ELEY: Correct.

3 PRESIDING MEMBER PERNELL: So your
4 recommendation is exempt it from both of those
5 sections?

6 MS. ENGLISH: Yes.

7 MR. PENNINGTON: What I was going to
8 point out is --

9 MS. SHAPIRO: Bill, identify yourself.

10 MR. PENNINGTON: The same Bill
11 Pennington.

12 MS. SHAPIRO: Okay. Well, we've got a
13 court reporter for a reason.

14 MR. PENNINGTON: Section 149B(1) on page
15 135 is actually where the requirements, the
16 mandatory requirements are invoked. And so that's
17 where the 132 requirements are invoked.

18 So if there's an issue with that, then
19 that would have to be dealt with separately. Your
20 point is correct.

21 MS. ENGLISH: We just need clarification
22 on that. However, that is accomplished.

23 MR. ELEY: It's not the intent to
24 trigger the cutoff requirement for a lamp
25 replacement.

1 MS. ENGLISH: Is that appropriate with
2 you, John?

3 MR. PAGE: Yes, very much. Thank you.

4 MS. SHAPIRO: Cheryl, while you're up
5 there you're next.

6 MS. ENGLISH: Thank you. And I would
7 request to be able to address both the lighting
8 zone and power density comments in the same
9 discussion here, because they are interrelated.

10 MS. SHAPIRO: Well, do we want to
11 have -- excuse me for a minute -- we've got Mitch
12 Gutell, who also seems to want to talk about the
13 same topic, is that right?

14 MR. GUTELL: Yes, that's right.

15 MS. SHAPIRO: And Jeff Aran, do you want
16 to talk about the same topic?

17 MR. ARAN: No.

18 MS. SHAPIRO: No. Good. How about --
19 well, I just wanted to have her be the last one on
20 that topic. Okay, go ahead, Cheryl.

21 MS. ENGLISH: On both --

22 MS. SHAPIRO: And then we'll have Mitch
23 after you.

24 MS. ENGLISH: -- topics?

25 PRESIDING MEMBER PERNELL: You probably

1 can cover what they wanted to say, and then we
2 don't need to hear from them.

3 (Laughter.)

4 MS. SHAPIRO: All right.

5 MS. ENGLISH: Thank you very much.

6 Cheryl English, Acuity Brands Lighting Group. We
7 are the largest manufacturer in the world of
8 luminaires and lighting equipment with two
9 facilities in the State of California.

10 We submitted our written comments and
11 have addressed two critical issues that we want to
12 present here today. The first one being the CEC's
13 definition of lighting zones; and the second one
14 being the power density limits, specifically for
15 hardscape and for facades.

16 With regard to the lighting zones, the
17 lighting zone definitions are critical because
18 they relate directly to the allowable light levels
19 and the associated power density.

20 The CEC definition is inconsistent with
21 national and international standards. IES and
22 CIEE standards define urban commercial areas as
23 zone 4. They also define zone 3 as urban
24 industrial and residential areas. Zone 2 is rural
25 industrial and residential.

1 And it's important to note that
2 commercial is very clearly defined in both as zone
3 4. And zone 4 regardless of population density.

4 The CEC definition --

5 PRESIDING MEMBER PERNELL: Excuse me,
6 let me just ask you, are the definition of the
7 other than being in different zones, are the
8 definitions the same? So that if theirs is in
9 zone 4 and ours is zone 2, I guess the question
10 is, is the definition the same, even though
11 they're in different zones.

12 MS. ENGLISH: The CEC definition does
13 not address commercial areas. The industry
14 standard specifically addresses commercial areas
15 as zone 4.

16 PRESIDING MEMBER PERNELL: Okay.

17 MS. ENGLISH: Okay, so the CEC's
18 definition does not provide a statewide default
19 for this zone 4 as urban and commercial areas, and
20 define zone 3 as urban.

21 The challenge here is presented by
22 referencing census data, and unfortunately the
23 census data does not have the refined categories
24 that I'm sure we all wish they did. The define
25 urban areas and they define rural areas, but they

1 don't define anything in between for suburban
2 areas or for commercial areas.

3 So perhaps there's a more appropriate
4 zone measurement that needs to be considered
5 that's more consistent with the zoning definitions
6 currently used by inspectors. And it provides
7 definitions that relate better to the industry
8 zone definitions.

9 CEC process allows for zone variation
10 through public process. The problem is that this
11 procedure forces mainstream applications to apply
12 for a variation in all cases where they want to be
13 consistent with designing to industry definitions.

14 This places a tremendous administrative
15 burden on the municipalities. The municipalities
16 have been faced with significant budget cutbacks
17 and limited resources on process variations.

18 In our business dealings with
19 municipalities in training programs and other
20 activities, that's their number one issue, is they
21 look to us to help reduce their administrative
22 burdens. The CEC definitions add more
23 administrative burdens on these municipalities.

24 In some areas there are special interest
25 groups that want to define restrictions

1 appropriate for their particular areas. These are
2 exceptions and should be handled as exceptions.
3 Municipalities already have a process in place to
4 address these interests.

5 The CEC definition limits the area for
6 variations to higher zones. In large land mass
7 areas 20 percent may be appropriate. But in small
8 land mass areas will the needs of the community be
9 met, and what is the basis for this 20 percent
10 value? I don't clearly understand what that
11 limitation is and how it's been arrived.

12 The CEC limits the variation of higher
13 zones to no more than one zone, but puts no
14 restriction on lower zones. So a rural area could
15 be defined as an LZ2 by the current definition,
16 but may have a commercial district within that
17 zone. So they could apply for a variation but
18 only go up to zone 3. If there's a commercial
19 district within that LZ2 zone, they're going to be
20 restricted at best through a public process at LZ3
21 levels, and may not be able to light to the
22 appropriate levels for that commercial district.

23 The CEC zone proposal references census
24 data which will be difficult for inspectors to
25 determine the zones and difficult to enforce,

1 limiting the potential of meaningful energy
2 savings through these reductions.

3 So my summary on the zones is that the
4 CEC definition is inconsistent with industry
5 standards, with no advantages for effective design
6 or energy reductions. It creates a significant
7 and unnecessary administrative burden on the
8 municipalities already challenged in terms of
9 budget and resources. It imposes restrictions on
10 variations based on zone variations that are not
11 justified with any scientific basis.

12 We would recommend that the CEC
13 definitions be revised to be consistent with
14 industry standards, minimizing the local
15 administrative burden, improving the
16 enforceability, and adjust the LPD values in
17 section 147 for each zone to achieve the energy
18 reduction objectives.

19 So those are my comments with regard to
20 zones.

21 PRESIDING MEMBER PERNELL: All right, so
22 we're going to get into the zone --

23 (Laughter.)

24 PRESIDING MEMBER PERNELL: I would just
25 ask to the consultants and staff to maybe comment

1 a little bit on your presentation. And then I
2 have a question of my own.

3 MR. PENNINGTON: One question I would
4 have is you said that you see this difficult for
5 building officials to enforce the lighting zones.
6 And is that lighting zones redefined the way you
7 want them redefined?

8 MS. ENGLISH: As currently defined by
9 census data, census references.

10 MR. PENNINGTON: I don't think that's
11 true because the census areas are very specific.
12 So I don't think there really could be an
13 ambiguity there. But that was just my comment.

14 Jim, do you want to respond?

15 MR. BENYA: Well, you know, Mr. Page has
16 raised very similar questions. And Cheryl and I
17 have debated this for, oh, back and forth --

18 MS. ENGLISH: Two years.

19 MR. BENYA: -- for two years now, so
20 this is not news as an issue.

21 The first thing I want to point out is
22 industry standards actually don't exist. And this
23 has been one of the problems that --

24 PRESIDING MEMBER PERNELL: I'm sorry,
25 industry -- say that again?

1 MR. BENYA: Standards, in terms of the
2 zones, really don't exist yet. I'm making that
3 statement based on the fact that when we started
4 the project we started trying to differentiate. I
5 mean it's intuitively obvious there's a different
6 need for lighting if you're in Yosemite National
7 Park than if you're in downtown Los Angeles.

8 And the four-zone system, which was
9 first introduced into IES standards in 1999, is
10 just becoming part of the language and parlance of
11 lighting design and the lighting industry.

12 The IESNA lighting standards and
13 recommendations that we use as the basis of
14 developing models for the standards do not yet
15 exist in a format to match the four zones that
16 they first published in 1999.

17 The consulting team took this as a
18 challenge and took what existing IESNA data there
19 was and applied it to the four-zone system. And
20 we did it in such a way that I feel it was not
21 only very logical, but it addressed what we
22 believe was the intent of the IESNA committees.

23 Cheryl's correct in the sense that there
24 is going to be some difference of opinion as to
25 how this should be applied, because it is all new

1 material. It is all new philosophy.

2 On the other hand, we feel like we did
3 an extremely good job of figuring out a rationale
4 that makes not only common sense, but it makes
5 technical sense, in as many different ways as we
6 can. We've tested these values and this
7 philosophy in many different ways.

8 What we have, and I believe is the crux
9 of the issue here, there is a lighting zone 1
10 which is for essentially national parks and very
11 dark, intrinsically dark environments. We all
12 know that it would be ridiculous to put in very
13 bright lighting systems and ruin the ability to
14 both enjoy that and to provide the necessity of
15 seeing. You can see very well with very little
16 light.

17 Lighting zone 2 we currently use as a
18 rural definition. Rural fits it pretty well. The
19 majority of the state is this situation, certainly
20 by area. And that's also very intuitive. The
21 concentration of the population is in a relatively
22 small band along the coast, and to a certain
23 extent, inland.

24 Lighting zone 3 is a default population
25 for the city-type environment. And one of the

1 reasons why we made this decision is because it
2 was our opinion that communities would want the
3 ability to say this particular portion of our city
4 is bright; it has a high ambient light level. And
5 we're going to define that as being our lighting
6 zone 4. It's the place where we're going to allow
7 very bright light.

8 But based on IESNA recommendations, as
9 we read them, we believe that a lot of suburban
10 areas which may fall within the cities are
11 presently being over-lighted, because there are no
12 code limits, there are no lighting standards,
13 particularly energy standards, that are
14 restricting it. There's a considerable amount of
15 over-lighting and we all feel, the entire
16 consulting team felt that this was an opportunity
17 to help not only reduce energy consumption, but
18 prevent other problems with this over-lighting
19 causes, including glare that might distract
20 drivers. And for us to drive up light levels in
21 adjacent areas so that people can see when going
22 from one area to another.

23 The bottomline is that when we look at
24 the IESNA's published definitions from 1999, it
25 says that lighting zone 3, which we're saying is

1 the default urban definition, the IES says that
2 these will generally be urban residential areas.
3 But it's not specific. They are areas of medium
4 ambient brightness is actually the definition.

5 Areas of high ambient brightness,
6 according to IESNA, normally these are urban areas
7 having both residential and commercial use and
8 experience high levels of nighttime activity. We
9 believe that it's up to the community to decide
10 where those areas occur, and to allow power use
11 there accordingly.

12 So this is the crux of the issue. To
13 sort of paraphrase Mr. Page, my discussion with
14 him, and it's very similar to discussions I've had
15 with Cheryl, it really boils down to communities
16 being able to make that decision and individual
17 projects and developers not being able to simply
18 assume lighting zone 4. They have to go through a
19 public process.

20 And we, the consulting team, think that
21 in order to control the growth in nighttime
22 lighting power use strictly for, you know, because
23 I'm going to be brighter than my neighbor type
24 philosophy, we believe the communities should make
25 a decision as to where the lighting zone 4 should

1 occur.

2 And so that's the difference in our
3 opinion. Lighting zone 3, the numbers correlate
4 very well. Things line up. And where our
5 differences are is that lighting zone 4, to again
6 paraphrase our commenters here, if lighting zone 4
7 were more accessible to the average project then a
8 lot of our differences of opinion about the
9 lighting zones would probably go away.

10 So it really boils down to the average
11 project's access to lighting zone 4 when it feels
12 that it needs it or wants it.

13 PRESIDING MEMBER PERNELL: Which one of
14 the zones would you put a commercial strip that
15 Ms. English was talking about that is not covered
16 as she alleges?

17 MR. BENYA: I've had the opportunity to
18 actually, working as a consultant to the City of
19 LaQuinta, California, helped them rewrite their
20 outdoor lighting ordinance. And we applied the
21 same system slightly differently, not on a
22 population basis, but on a city zoning and use
23 basis.

24 Found it very easily applied to their
25 community. They were able to say, oh, this makes

1 common sense. Here's our zone 1, here's our zone
2 2, here's our zone 3. They decided not to have a
3 zone 4.

4 Their commercial strip, highway 111,
5 which has regional malls, car dealerships, golf,
6 you know, driving ranges and a number of other
7 nighttime activities along it, was they were very
8 content to have lighting zone 3 applied to it.
9 And they felt that that was reasonable in their
10 community. Because their community, if you've
11 ever been there, is actually fairly dark at night.
12 And there's no real reason to have them competing
13 with, you know, Palm Springs, because it's only,
14 you know, 12 or 15 miles away.

15 So, there is, from a practical I've-
16 been-there-and-done-this standpoint, it actually
17 applies to the community quite easily.

18 I would see large communities, and, of
19 course, our big cities, Los Angeles, San Francisco
20 and so on, feeling a significant portion, Market
21 Street in San Francisco obvious lighting zone 4.
22 I wouldn't see that being an issue.

23 But I do think that we have a lot of
24 communities that do not have the high density of
25 those cities that would benefit by saying, you

1 know, we're not going to have a zone 4, we don't
2 care if it's a major highway going through town,
3 we just don't need that much light.

4 PRESIDING MEMBER PERNELL: And this is
5 for Ms. English. Ms. English, you mentioned the
6 IES standard, and we're not consistent -- the
7 proposed reg is not consistent with the IES
8 standard. Is that a national established
9 standard? Or is that an organizational standard?

10 MS. ENGLISH: The IES RP3399, as far as
11 I'm aware, is an ANSI-approved standard. The CIE
12 documents, and actually, I believe, Jim, that the
13 CIE definition, which is the international --
14 Commission Internationale on Illumination, it's
15 French --

16 MR. ELEY: Yeah.

17 MS. ENGLISH: -- was defined before the
18 IES 1999 standard. I just don't have a full set
19 of the CIE documents, so I referenced a CIE
20 document that had it in the 2003 version.

21 MR. PENNINGTON: Maybe to answer your
22 question, this is not a legally required standard
23 in any way by any party. It's --

24 PRESIDING MEMBER PERNELL: The IES
25 standard?

1 MR. PENNINGTON: Yes. It's an industry
2 association technical standard that's been
3 approved by ANSI, so it's gone through a consensus
4 process and has been approved as a national
5 consensus standard.

6 And the state agencies who are
7 considering building code changes are obligated to
8 consider those kinds of standards in setting
9 standards as law.

10 PRESIDING MEMBER PERNELL: They're
11 obligated to consider, but --

12 MR. PENNINGTON: To consider.

13 PRESIDING MEMBER PERNELL: -- not
14 necessarily agree with?

15 MR. PENNINGTON: Correct.

16 MS. ENGLISH: Yeah. And I would say in
17 terms of industry standard, the definitions are
18 industry standard approved. There are not very
19 many communities that I'm aware of, other than the
20 ones that people like Jim have been working with,
21 that actually are utilizing the zone concept,
22 because it's a new process.

23 We've not opposed the zone concept. I
24 think it makes sense for lighting levels and power
25 density to be designed based on the regional needs

1 of the area, but I do have a few comments with
2 regard to what Jim has mentioned.

3 You know, I think the difference in the
4 definitions of the California approach versus the
5 industry approach will cause some confusion.
6 California has been known to do a few things
7 differently than the rest of the world, so we
8 recognize that. And --

9 PRESIDING MEMBER PERNELL: I don't know
10 if that's a compliment or not.

11 (Laughter.)

12 MS. ENGLISH: And I will say that
13 usually when those differences occur it's for a
14 very specific positive reason to encourage new
15 technologies or things like this.

16 I don't know that this particular zone
17 approach is necessarily going to improve energy
18 efficiency because it's all related to what's the
19 power density that we end up with, defined by
20 those zones.

21 The approach that's here now can work.
22 I think it will create confusion. It would not be
23 my recommendation, but it can work. But if it
24 remains as it is, the zone 3 would have to have
25 power density requirements that are designed and

1 put forward, the limits put forward that would
2 meet urban lighting level requirements, because
3 that is the definition for the current CEC
4 definition for zone 3, is urban areas.

5 With regard to Jim's comment on over-
6 lighting, I think over-lighting is a subjective
7 issue. Some people feel like areas over-light and
8 other people feel like the lighting is very
9 appropriate. And we don't really have any
10 specific data or standards to reference that says
11 a particular area is over-lit.

12 He also mentions the need to control
13 glare. The standards have been designed to
14 control glare because the optical cutoff
15 requirement is in there, which we do support.

16 Jim's also mentioned that we should let
17 the community decide where LZ4 occurs, and use it
18 when they need to or want to. I endorse that
19 completely. But then you need to take out the 20
20 percent land mass limit, because if an area wants
21 to designate more than 20 percent of their land
22 mass as a zone 4 requirement, they should be
23 allowed to do that.

24 It probably works well in a rural area
25 where you have a lot of land mass. But in an area

1 like San Francisco where there's very little land
2 mass, that equation begins to fall apart.

3 PRESIDING MEMBER PERNELL: Can I stop
4 you right there for a minute?

5 MS. ENGLISH: Sure.

6 PRESIDING MEMBER PERNELL: Do you have a
7 response to that, that if you allow the -- it
8 seems to me that our proposal is saying allow the
9 local community jurisdiction to make decisions on
10 their lighting. Yet we're making a decision on
11 the 20 percent mass. I mean, what's your response
12 to that?

13 MR. PENNINGTON: Our original view of
14 this was that that was a huge amount of area that
15 could be allocated to the very highest lighting
16 level in IES' scheme. And we thought that that
17 was quite generous.

18 MR. BENYA: We're actually considering,
19 and one of the things we will talk about offline,
20 is how to make that 20 percent be a really big 20
21 percent.

22 (Laughter.)

23 MR. BENYA: What I mean by that --

24 PRESIDING MEMBER PERNELL: Well, 20
25 percent is 20 percent.

1 MR. BENYA: -- what I mean by that --
2 what do I mean by that? What I mean by that --

3 MS. ENGLISH: This is from an engineer.
4 (Laughter.)

5 MR. BENYA: -- is well, we talked about,
6 okay, the way I think we originally envisioned
7 this, you would take a neighborhood, you know, and
8 that would be the land mass.

9 Well, what really happens, and one of
10 the things we think is going to work this out, is
11 the main street that's running down there and the
12 buildings surrounding it, perhaps, the arterials
13 and the major roads, are the ones that are going
14 to have, going to be the lighting zone 4.

15 The minute you get down into the
16 neighborhood that abuts it, you drop down to zone
17 3 or zone 2. And by simply having that narrow
18 band that is, frankly, not going to accumulate to
19 20 percent of the land mass, because most of the
20 land mass is in the neighborhoods.

21 So we think that, you know, writing
22 some, maybe adjusting the rules a little bit,
23 maybe even in the manual, to explain how to do
24 that, the 20 percent shouldn't present a real
25 problem. We don't know yet. We've never done

1 this before. But that's what I mean by a big 20
2 percent.

3 MS. ENGLISH: And I guess my comment to
4 that is that I believe that many of the major
5 retailers that come into rural areas and build big
6 box types of stores are going to apply for that
7 LZ4 requirement.

8 It goes through a public process. The
9 public has the opportunity to decide if they want
10 to support this or not. Let the community decide.
11 Don't have the state decide.

12 MR. PENNINGTON: So I have a question
13 about that. In terms of the county, if you're
14 thinking about like I-5 going through the middle
15 of all these rural counties, and the counties'
16 jurisdiction is all of that land that is within
17 their county.

18 Then the strip along I-5 is nowhere
19 close to 20 percent of the land mass in their
20 jurisdiction --

21 MS. ENGLISH: Yeah, I'm not concerned
22 about the areas around major interstates. I'm
23 actually concerned about retail development areas.
24 Because I think that's where those higher
25 illuminance levels and the safety and security

1 concerns come in.

2 PRESIDING MEMBER PERNELL: So if I could
3 give you an example and you're from out of town so
4 you may not know where Sunrise Mall is, which is
5 not exactly a major interstate, but it kind of
6 sits and it's surrounded by communities. Is that
7 the type of example you're saying let the
8 community decide?

9 MS. ENGLISH: Exactly. Exactly. And,
10 you know, I have some comments as we get into the
11 power density, but in my letter I provided 11
12 examples of national retailers and what their
13 current practice is. I'm not saying that all 11
14 of those are efficient or effective. Some of them
15 may or may not be. Some of them certainly are.

16 But you can see examples of what retail
17 establishments are currently using in terms of
18 their lighting specification performance criteria.

19 MR. PENNINGTON: Mazi, I interrupted you
20 a couple of time --

21 PRESIDING MEMBER PERNELL: All right,
22 yeah, we have a number of folks who wanted to --

23 MR. PENNINGTON: Could we hear from
24 staff here.

25 PRESIDING MEMBER PERNELL: Yeah, go

1 ahead.

2 MR. SHIRAKH: What Cheryl brought up has
3 also been brought up by some of the other
4 stakeholders we've been meeting this morning
5 regarding this 20 percent limitation. And we've
6 committed to work with them and make sure that
7 their needs are met.

8 I can't give you a precise number right
9 now, but within the next few days, next week,
10 we'll work with them -- some alternative.

11 The other thing that she brought up was
12 the fact that if you're in LZ2 you cannot move up
13 to LZ4. That is correct. And that's another
14 thing we can take a look at and see whether we can
15 allow more flexibility there.

16 But the fundamental thing was as Jim
17 pointed out is preserving LZ4 as something that
18 the local communities need to decide. Whether,
19 you know, they can re-designate large portions of
20 their land mass area, or specific areas, entirely
21 up to them. And the staff feels that that should
22 be preserved.

23 MS. ENGLISH: And I would say that if --

24 PRESIDING MEMBER PERNELL: Right, --

25 MS. ENGLISH: -- if we can address the

1 land mass issue and the two zone issues, then I
2 think we can find an effective resolution to this.

3 PRESIDING MEMBER PERNELL: Well, I think
4 what Mazi has said is that he's willing to work
5 with whomever to look at that issue.

6 I guess my point is if we go to zone 4
7 and we say, you know, let the community decide,
8 but yet we're putting a limitation on them with a
9 number, and so I don't know that that's really
10 letting the community decide.

11 And so as you deliberate this offline,
12 you know, just keep in mind that if we're going to
13 make a statement that says, you know, we're going
14 to let the local jurisdiction of the community do
15 that, then I don't know that we need to put a
16 restriction on, at least not a percentage on what
17 that should be. Otherwise we're deciding. And
18 that's just my opinion. I'm sure you guys can
19 work that out.

20 MR. SHIRAKH: Well, then the only reason
21 for having some limitation is there otherwise it
22 would be very easy for a community to say the
23 entire Los Angeles is LZ4, period. But by putting
24 some limitations in then they have to sit down and
25 actually think where that is more applicable. And

1 it would probably be the urban areas, commercial
2 areas, and not the residential areas. And that's
3 where the energy savings come in. Otherwise we
4 will not see any savings.

5 If large portions of urban areas are
6 automatically designated at LZ4, there will not be
7 any savings result of the standards.

8 PRESIDING MEMBER PERNELL: Yeah, well,
9 you know, having sited power plants around the
10 state, the community really comes out when you're
11 doing something in their area. And I think that,
12 you know, your commercial strip of big box
13 operation might come up with a lot less in those
14 types of scenarios, because we have a very active
15 community up and down the state, as Commissioner
16 Rosenfeld and I know.

17 But, again, I'm not suggesting either
18 one way or another. What I would suggest, which
19 is what you have agreed to, is that offline we get
20 together, or you guys get together and work this
21 out. And just keep in mind that if we're going to
22 say, let someone decide, then we need to wordsmith
23 it in a way that they actually feel like they're
24 deciding something.

25 Yes?

1 MS. SHAPIRO: Okay, well, wait a minute.
2 I want to just call in order. So we'll go -- you
3 don't have a card up and John does, and John wants
4 to say something. So do you mind if we have John
5 come first. John Page, that's you. You come up
6 first, but just --

7 MR. PAGE: Just briefly, Cheryl. The
8 thing that's so critical though about --

9 MS. SHAPIRO: No, wait till you're at
10 the mike so that it gets recorded.

11 MR. PAGE: The piece that's so critical
12 about it is that the power densities have been
13 reverse engineered off of IESNA average
14 illumination standards. So as we're looking at
15 these lighting zones and trying to figure out
16 where things have to go, these allowances that are
17 contained in the document were based on
18 assumptions of average illuminance that's going to
19 be in an area, and reverse engineered back to give
20 a power density per square foot.

21 An area within the IESNA that says high
22 illuminance is allowed describes an area as an
23 intersection in an urban area, which is very
24 similar to what's being done in LZ3.

25 The current power density standard does

1 not allow that; it allows for half of that level.
2 So that as we look at this and come up with what's
3 going to be a good definition for lighting zones,
4 we have to revisit the power density allowed
5 within each lighting zone.

6 Because again it's been reverse
7 engineered, based on allowable standards, and as
8 an example, drawing back to the service station,
9 where it says that a service station has an
10 average illuminance of 50. In an urban area at a
11 major intersection it's zone 3. The current power
12 density allows for 25 in LZ3.

13 COMMISSIONER ROSENFELD: Mr. Page, --

14 PRESIDING MEMBER PERNELL: Let me do
15 something as a matter of housekeeping here. We're
16 going to have to dim the lights so we can -- don't
17 go anywhere -- we can continue the discussion, but
18 I don't want to think the lights are going out.
19 So we need to dim the lights to load a
20 presentation. So why don't we do that, and please
21 continue.

22 MR. PAGE: I am from Ohio and I don't
23 want to be blamed if there's a power shortage
24 here.

25 (Laughter.)

1 MS. SHAPIRO: No, it's Jerome who's
2 going to dim the lights.

3 MR. PAGE: Please don't get us for this
4 one.

5 MS. SHAPIRO: So you're just going to do
6 it and we don't have to do anything but be in a
7 little bit of darkness.

8 UNIDENTIFIED SPEAKER: Already done.

9 MS. SHAPIRO: It's done? Oh, never
10 mind.

11 MR. PAGE: Okay, but it's just as we
12 look at the power density at the lighting zones,
13 power density needs to be reassessed.

14 COMMISSIONER ROSENFELD: Mr. Page, I'm
15 just a little puzzled. You're talking, you gave
16 the example of gas stations. Now, at a gas
17 station there's certain definite things I have to
18 do. I have to look under the hood and see if
19 there's oil on the dipstick. And see if there's
20 liquids in my containers and so on.

21 And for that IESNA has specified certain
22 footcandles, I guess.

23 MR. PAGE: Yes.

24 COMMISSIONER ROSENFELD: Why the hell
25 does that vary from lighting zone 2 to 3 to 4?

1 MR. PAGE: The industry standard has
2 always been one level. It's now being adopted to
3 take into consideration what is the surrounding
4 environment based on illumination not on
5 population. And that's a big concern, is your
6 lighting zones here are based --

7 COMMISSIONER ROSENFELD: But I'm really
8 just trying to understand, is it supposed to take
9 more light depending on where the gas station is?

10 MR. PAGE: In reality, --

11 COMMISSIONER ROSENFELD: (inaudible).
12 Okay, and now you say that somehow or other the
13 reverse engineering went wrong by a factor of two?

14 MR. PAGE: Yes.

15 COMMISSIONER ROSENFELD: Jim Benya,
16 would you comment on that?

17 MR. BENYA: The IESNA currently
18 publishes three different recommended lighting
19 power levels, lighting illuminance levels, which
20 we translate then in power densities.

21 One is for high ambient light; one is
22 for medium ambient light; one is for low ambient
23 light.

24 What we've done is we've mapped high
25 ambient light in the lighting zone 4; medium

1 ambient light in the lighting zone 3; and low
2 ambient lighting in lighting zone 2, remembering
3 that lighting zone 1, which is an intrinsically
4 dark environment we took a value that I had
5 actually previous designed at Yosemite National
6 Park and thought was appropriate.

7 No one seems to be disagreeing with
8 lighting zone 1 much. But where we're -- well,
9 there's one gas station left up at Wiwona, and
10 that's the one we did, but --

11 (Laughter.)

12 MR. BENYA: -- but, you know, the real
13 issue here again, it has to do with this lighting
14 zone 4 allocation. John's correct in that the
15 IESNA recommended practice 201, which is the
16 merchandise lighting, does say that busy
17 intersections and urban environments should have
18 the highest light level. That's the highest
19 ambient light level.

20 The problem is all these words that they
21 use are subjective. And what we've tried to do is
22 give them some objectivity by saying in the
23 highest lighting zone 4, absolutely, we agree.
24 But there's a lot of situations where lighting
25 zone 3 is more appropriate.

1 Again, why have more light than you
2 really need. Many urban environments, matter of
3 fact most urban environments, those that qualify
4 as urban, are, in fact, relatively dark compared
5 to what we're thinking of as bright city streets.

6 So, I would agree, lighting zone 4
7 bright city streets, yep, absolutely. When we
8 start talking about dark ambient environments,
9 neighborhoods, and we start districts, and we
10 start talking about places like that, I don't
11 think it's a lighting zone 4, I think that it
12 addresses medium ambient brightness and lighting
13 zone 3 is more appropriate.

14 Mr. Page and I disagree on this point,
15 but that's about the extent of our disagreement.
16 He'd like to see 50 footcandles, you know, in all
17 city environments. And I think that the 25, or as
18 I've been corrected, 30, would be more
19 appropriate.

20 MR. SHIRAKH: And, again, these can all
21 be decided by the local jurisdictions by adopting
22 or re-designating --

23 MS. SHAPIRO: But if you're in lighting
24 zone 2 you can't go to 4. I think Cheryl's made
25 that really, brought that home to us. So, --

1 MR. SHIRAKH: And we've agreed to look
2 at that.

3 MS. SHAPIRO: Okay.

4 MR. PAGE: Okay, I'd like to yield back
5 to Cheryl so she can complete her points.

6 MS. SHAPIRO: Oh, well, I said that Gary
7 could talk after you. And Gary was very gracious
8 to agree.

9 MR. FERNSTROM: Gary Fernstrom, PG&E.
10 I'm fine to wait. Why don't we let Cheryl go
11 ahead.

12 MS. SHAPIRO: Okay.

13 PRESIDING MEMBER PERNELL: Well, we had
14 a couple others, but everybody seems to be
15 yielding to Cheryl.

16 (Laughter.)

17 MS. ENGLISH: I'm not quite sure what
18 that means. Cheryl English, Acuity Brands. The
19 second part of my discussion relates specifically
20 to the power density limits associated with the
21 outdoor lighting proposed standards.

22 The power density limits are the most
23 critical element of these outdoor standards. They
24 determine how much light can be utilized to
25 support nighttime visibility and security needs.

1 The most significant issue discussed by
2 the industry, CEC and your contractors has been
3 how much light is appropriate for specific
4 applications. IES recommendations have defined
5 minimum illuminance levels for visibility
6 requirements.

7 Our discussion through the standards
8 process has evaluated common practice, appropriate
9 and responsible design practice, and security
10 requirements, which don't always coincide.

11 The CEC LZ3 model for parking lots
12 allows up to two footcandles. Even if a
13 commercial retail site is approved for a variation
14 to LZ4, the illuminance would be limited to three
15 footcandles.

16 So in our submitted comments we've
17 provided examples of typical common practice of
18 retail parking lots. And they are typically
19 lighted from three to ten footcandles. Again,
20 some of those may be appropriate and some of them
21 may be inappropriate. Nonetheless, those 11 sites
22 represent thousands of outdoor sites throughout
23 the State of California.

24 Security requirements have been
25 difficult for us to define. Again, they've been

1 subjective with no real standards to reference. A
2 new IES document is now available that defines
3 guidelines for security for people, property and
4 public spaces. This is IESNA G-1-03, which Jim is
5 now graciously holding up on display.

6 This guideline recommends three to five
7 footcandles for retail parking. If these
8 standards proceed as currently proposed retail
9 establishments cannot be designed to meet the IES
10 guidelines for security.

11 There's an opportunity here for all of
12 us. And I think Commissioner Pernell was right on
13 when we started this discussion this morning of
14 we're here to help solve problems. There's an
15 opportunity to achieve significant energy
16 reductions in outdoor lighting while supporting
17 these security lighting guidelines.

18 First we need to focus on energy
19 reductions for those retail sites that are
20 excessive, while allowing effective and
21 responsible designs to meet the IES guidelines for
22 security.

23 Second, for certain limited measures, in
24 my case primarily the hardscape measures, we need
25 to define two distinct power density categories to

1 accommodate security requirements.

2 The first category would address
3 nonretail and moderate security requirements, such
4 as office complexes. This category would use the
5 current CEC proposed power density limits.

6 A second new category would address
7 retail sites or sites with high security
8 requirements. This category would define a new,
9 more relaxed power density to support the
10 appropriate security guidelines and stipulated by
11 IES.

12 Regarding the facade lighting measure
13 there have not been any detailed models provided,
14 only summary data. And our estimate is that this
15 measure would represent less than one-half of 1
16 percent in terms of energy reduction for outdoor
17 lighting.

18 Because of the lack of technical support
19 and energy reduction potential we'd recommend that
20 this particular measure be removed and re-
21 evaluated during the next standards process. If
22 this measure does remain in the standard, it
23 should also incorporate the two category approach
24 for moderate and high security requirements.

25 The power density limits we have

1 proposed in the comments we submitted are based on
2 models developed by the CEC contractors. We will
3 need to tighten the definitions of those because I
4 recognize what I've put in that letter is hard to
5 enforce. You know, what do we define as moderate
6 security and high security.

7 Perhaps the simplest definition is to
8 make it very clear and easy for inspectors to just
9 say retail and nonretail. I think that would
10 probably result in it, but we're certainly willing
11 to work with the Commission and staff and
12 contractors to define what's the right language
13 there to insure the enforceability.

14 In our comments we provided specific
15 proposals for changes to the language and to the
16 power density values. We've also incorporated the
17 method that we used to determine the power density
18 values that we're proposing.

19 These proposals are reasonable. They
20 achieve meaningful energy reductions while
21 supporting the security that's consistent with
22 industry guidelines, minimizing municipal
23 administrative burden, and improving the
24 enforceability. They can be incorporated within
25 the tight time schedule that we have facing us.

1 Acuity Brands stands ready to assist in
2 incorporating these important revisions that
3 promote energy effective responsible lighting, and
4 support the security requirements for the public
5 of the State of California.

6 Thank you very much.

7 PRESIDING MEMBER PERNELL: Thank you.

8 MS. SHAPIRO: Gary.

9 MR. FERNSTROM: Gary Fernstrom, Pacific
10 Gas and Electric Company. I know we've had a long
11 discussion on this, but I'd like to make a couple
12 of really quick comments, and try and focus this
13 issue back into reality.

14 PG&E was a discussion participant in the
15 development of the outdoor lighting standards. I
16 think the CEC was tasked with a very difficult job
17 in developing the outdoor lighting standards, and
18 frankly, I think the staff and its consultants did
19 an excellent job considering the difficulty.

20 We've talked about the issue of local
21 control. The proposal limits to a very very small
22 extent local control over illuminance levels.

23 It's been my experience that most
24 frequently cities are interested in reduced light
25 levels rather than in increased ones. I've rarely

1 seen a city council suggest to a large retail
2 store or gas station that their illuminance levels
3 be increased.

4 The industry, on the other hand, is
5 interested in no limits to illuminance levels
6 because that's the business they're in, lighting.

7 I think it's also important to know that
8 we're talking about regulating here, the lighting
9 power density, not luminance or illuminance. Not
10 the light level that we see. And it's entirely
11 possible, through the use of more efficient
12 sources, to get greater brightness, greater
13 illuminance at the same lighting power density.

14 So, if a particular user is dissatisfied
15 with the level of light that they can achieve
16 under the lighting power density regulations, they
17 can go to more efficient sources, better fixtures,
18 better luminaires, induction lighting. There are
19 a lot of technologies that allow flexibility in
20 the luminance and the illuminance relative to the
21 amount of power required.

22 So PG&E fully supports the staff
23 recommendation, and believes that it's a very good
24 first cut and is workable.

25 PRESIDING MEMBER PERNELL: All right,

1 thank you.

2 MS. SHAPIRO: I would like to go back to
3 cards. Mitch Gutell. It looks to me like you
4 want to speak on this issue, is that right?

5 MR. GUTELL: Yes, I do, but could I
6 defer to Steve Arita from WSPA?

7 MS. SHAPIRO: Steve Arita, you were -- I
8 just alphabetized you incorrectly.

9 MR. ARITA: Good afternoon,
10 Commissioners Pernell and Rosenfeld. My name is
11 Steven Arita; I'm with the Western States
12 Petroleum Association. Members of our association
13 are composed of the major oil and gas companies
14 that produce, transport, refine, market petroleum
15 and petroleum products in the six western states.

16 Our members own and operate gas stations
17 so we have a direct interest in the proposed
18 outdoor lighting standards. First of all I'd just
19 like to emphasize that members of our association
20 recognize the important of reducing energy. We
21 support the concepts and the requirements of SB-
22 5X, and it's a very important issue for many of
23 our members, so we share in this collective goal
24 of reducing energy.

25 My comments are going to focus on the

1 broader policy issues of concern. We have issues
2 of concern, and we also have a few suggestions of
3 some possible alternatives for your consideration.

4 The proposed standards, as currently
5 drafted, as we've all heard already, identify
6 several lighting zone standards, four of them.
7 And just to be very straightforward, the lighting
8 zones proposed will mean there's less light.

9 Currently members of our association who
10 operate existing gas stations and those who are
11 going to be building any new ones, it's going to
12 be a big disincentive for them to be able to,
13 particularly for existing stations, to upgrade
14 their lighting systems if it's going to mean a
15 lower light level.

16 And let me explain a little further what
17 that concern is. Lower light levels raises safety
18 and security issues of concern. And I also like
19 to point out here that Mitch Gutell will give a
20 pretty good example of safety and security issues.

21 I'd also like to add in discussions with
22 staff, they talked about safety, and there are
23 references to other documents that we've learned
24 about. We're talking about workplace violence
25 issues of safety and security issues.

1 I'd like to cite out for my comments an
2 OSHA report conducted in 1998, and it was
3 entitled, Recommendations for Workplace Violence
4 Prevention Programs in Late-Night Retail
5 Establishments.

6 The OSHA report found the following:
7 Retail store robberies occur in the late evening
8 and early morning hours more often than during
9 daylight hours because it is dark, and fewer
10 people are on the streets.

11 The OSHA report also described a study
12 that was done in 1975, but what they did is they
13 went and interviewed convicts. And they asked
14 them, what was the most attractive things you
15 found in order to commit your crime. The convicts
16 reported several factors. One, large amounts of
17 cash on hand; an unobstructed view of counters;
18 easy escape routes; and more importantly, poor
19 outdoor lighting. Again, that's why lighting
20 outdoors is a very big concern, an issue with our
21 members.

22 The OSHA report recommended the
23 following engineering and workplace changes.
24 Improve visibility, take down signs, shelves;
25 allow both police officers and other folks to be

1 able to look inside and outside of the windows.

2 More than that, though, was to maintain
3 adequate lighting, both within and outside of the
4 establishment to make the store less appealing to
5 a robber. The specific reference was made to the
6 parking area, an approach to the retail store
7 being well lit during nighttime hours of
8 operation.

9 They also recommended exterior
10 illumination may need upgrading in order to allow
11 employees to see what is occurring outside of the
12 store. And, again, I'd just like to add that
13 Mitch will provide a good example of some of the
14 programs they've done.

15 Safety and security is a big issue of
16 concern to operators and owners of gas stations
17 and convenience stores. The proposed four
18 lighting zones will result in a lower level of
19 light available, which raises the safety issues.
20 And the end result is that there won't be any
21 changes or retrofits or upgrades. And, again,
22 that is a concern, because then it doesn't help
23 your goal of reducing energy.

24 I'd also like to add that the four
25 lighting zone concepts being proposed by this

1 standard does also raise competitive issues among
2 the different companies that I represent.

3 We understand and support the need to
4 conserve energy for outdoor lighting. We do
5 believe, however, that a more effective approach
6 that is based on incentives to upgrade to more
7 modern energy efficient lighting systems will
8 bring about real energy savings.

9 The lighting zone standards, as
10 proposed, don't provide any incentive for existing
11 gas station owners to convert their lighting
12 systems.

13 We would recommend that instead of
14 categorizing the gas station owner into a certain
15 lighting zone, we believe a better alternative
16 approach would be to allow gas station and
17 convenience store operators the flexibility, and
18 providing some type of incentive to voluntarily
19 install newer, energy saving lighting systems that
20 would result in energy, real energy savings,
21 without compromising safety and security issues.

22 Now, we talked about gas stations for
23 the most part so far, and really you could almost
24 split the two into two different categories. You
25 got new gas stations being built, and you have

1 existing gas stations. Certainly common sense
2 would dictate that for existing gas stations,
3 depending on the type of light configurations and
4 systems they have, you would probably get a
5 greater energy savings if they were encouraged and
6 incentivized to upgrade to more modern, newer,
7 efficient lighting systems.

8 Again, the proposed four zone categories
9 will create a problem where if it's going to mean
10 less light they're not going to go there. But,
11 you have two systems, you have two tracks. One,
12 new gas stations being built, and existing gas
13 stations.

14 So one proposal, one consideration, as
15 an alternative, would be for new construction gas
16 stations tie the power density use to existing
17 zone designations. Commissioner Pernell, I heard
18 somewhat of a tie it to the community. Whatever
19 that community's lighting standards are, power
20 density standards are, and it's all spelled out in
21 their local planning upgrades and requirements,
22 tie it to that for new construction gas stations.

23 For upgrading existing or retrofitting
24 systems for gas stations, we would suggest as an
25 alternative, identify some x percent reduction

1 that would be required as a power density
2 allotment, whatever that percent might be.
3 Certainly WSPA is open to discussing what that
4 number might be with staff, and trying to figure
5 out what alternative would be for, again, existing
6 gas stations.

7 Again, the success of that would have to
8 tie it to also some type of incentive, again for
9 these existing gas stations to go there.
10 Currently right now if it's going to mean less
11 light and raise security issues they're most
12 likely not going to go there.

13 Provide other types of incentives tied
14 to some type of x percent power reduction, you're
15 going to get power reductions, power savings.
16 That's what you want.

17 Again, with that, that's the suggestions
18 that we would like to offer and throw out on the
19 table for discussion. We realize that staff has
20 done a great deal of work on this. Certainly I
21 think you've heard some of the concerns and
22 comments relative to these different types of
23 categorizations, lighting zones.

24 I almost kind of liken it to you already
25 have, throughout the communities in the state,

1 planning zone requirements, planning zone
2 standards. We are now taking four lighting zone
3 other standards and placing it on top of that,
4 when, in fact, you already, to a large extent,
5 have an infrastructure in place.

6 Again the idea is incentivize it, allow
7 existing station owners a reason to upgrade so
8 that you can get the power saving reductions.

9 PRESIDING MEMBER PERNELL: Well, thank
10 you. I would just say that Mr. Page earlier said
11 that they were doing this on their own and saving
12 all kind of electricity. And you're saying
13 incentivize for them to do it.

14 And so I'm a little kind of less than
15 confused, but --

16 MR. ARITA: I would say that I cannot --

17 PRESIDING MEMBER PERNELL: -- I'm
18 getting two different ends of the spectrum here.

19 MR. ARITA: I cannot speak to Mr. Page's
20 comment that they're doing it. I cannot speak to
21 individual companies. Individual companies, as
22 they upgrade their stations, that is certainly
23 their business.

24 I do know that the proposed standards
25 with specific lighting zones which clearly have

1 less level of light will create a problem in terms
2 of there's no incentive to move to upgrade. So,
3 it's something to consider.

4 PRESIDING MEMBER PERNELL: Right, and
5 that's another difference then I'm noticing,
6 because I'm hearing that we're talking about
7 lighting power densities, and not necessarily
8 lighting levels. So I don't know that all of this
9 is going to equate into a big safety hazard, less
10 lighting for the either retail or service station.

11 MR. ARITA: And the issue of power
12 densities and lighting levels and all of those
13 issues, I would have to defer that to the
14 technical persons to give you more of the --

15 PRESIDING MEMBER PERNELL: All right,
16 well, we certainly appreciate you being here.

17 MR. ARITA: But, again, -- yeah, I would
18 like to again offer that I think there are better
19 alternatives out there that will result in real
20 energy savings.

21 PRESIDING MEMBER PERNELL: Thank you.

22 MR. SHIRAKH: I have a question before
23 you leave, Steve. Mr. Page just discussed the
24 option of retrofitting existing fixtures without
25 triggering the standards. And you can do that

1 throughout the station without triggering any of
2 these requirements. Would that work for you?

3 MR. ARITA: I would have to defer to
4 Mitch to comment on the technical aspects of
5 whether that's possible, how that would be done,
6 whether that's even possible within the context of
7 the regulations as proposed. I would have to
8 defer to Mitch.

9 PRESIDING MEMBER PERNELL: All right,
10 well, I think Mitch is next.

11 MR. ARITA: Okay, thank you --

12 PRESIDING MEMBER PERNELL: Thank you.

13 MR. ARITA: -- for the opportunity to
14 speak before you.

15 PRESIDING MEMBER PERNELL: Thank you for
16 coming.

17 MR. GUTELL: Commissioners, Staff,
18 everybody, my name's Mitch Gutell. I've been
19 working with the people from WSPA. I work for bp
20 which owns the ARCO/AM-PM stations in California.
21 And we are a member of WSPA, so I can talk
22 basically a little bit from both positions.

23 What I wanted to do was also agree that
24 not only from the WSPA position, but also from our
25 own corporate position we have some very definite

1 corporate goals, one of which is to save money.
2 And also another less obvious is to reduce
3 greenhouse gas. One of our corporate metrics,
4 along with all the stuff that goes to the
5 stockholders, is the amount that we actually
6 reduce greenhouse gas.

7 One of my performance criteria on my job
8 is as I do things to reduce energy use, which is
9 my job, that we also do a calculation, like I say,
10 I reduce so many kilowatts of energy use, so you
11 know, we are now using this many kilowatt hours as
12 opposed to what we were before. And we are
13 producing so much fewer tons of greenhouse gases.
14 So these are all important things for us. So our
15 goals are very much aligned with the Commission's
16 in this sense.

17 So what we want to do is we want to see
18 something that's really going to make it such that
19 these goals are achieved. We don't necessarily
20 agree, however, that the proposal, SB-5X, the
21 rulemaking that's in front of us right now is
22 necessarily going to achieve those goals. Or at
23 least there's some missed opportunities, okay.

24 There are two ways in which we can
25 reduce energy use. One of which is to target new

1 construction, and the other is to incent the
2 current gas station owner to make that decision to
3 go ahead and retrofit his lighting such that
4 there's the economic sense to it.

5 And in some cases there is enough
6 economic sense, there is enough savings to where
7 one would go ahead and do it. If they can save
8 20, 25 percent, and the cost of the actual
9 installation is not significantly high, they can
10 pay themselves back in two years. Then most
11 business owners will go ahead and do that.

12 However, if there was a corresponding
13 loss in light to where that business owner feels
14 that he can't operate safely, or it's going to be
15 a problem, or he loses competitive advantage, then
16 he's not going to make the changes. And I can go
17 into the mechanics of how that works in a little
18 bit.

19 But if we are not incenting and if we
20 are not making this something palatable for the
21 business owner, we are missing a significant
22 opportunity to change our energy use and our
23 energy use patterns and really achieve some
24 savings.

25 As far as new construction goes let's

1 recognize that the amount of energy that gas
2 canopies use in California is really very small
3 percentage of the total energy use in California.
4 The 2002 baseline report basically notes that the
5 connected load for gas canopies in California is
6 less than 30 gigawatts. Less than 30 gigawatts,
7 about 29.something.

8 COMMISSIONER ROSENFELD: Megawatts.

9 MR. GUTELL: No, gigawatts.

10 COMMISSIONER ROSENFELD: California's
11 only 50.

12 MR. GUTELL: Well, the 2002 base report
13 says you're at 3000 gigawatts.

14 COMMISSIONER ROSENFELD: Maybe you're
15 thinking about billions of kilowatt hours.

16 MR. GUTELL: Excuse me?

17 COMMISSIONER ROSENFELD: Maybe you're
18 thinking of billions of kilowatt hours.

19 MR. GUTELL: Gigawatt hours. I'm sorry.
20 I stand corrected. Thank you, sir. Gigawatt
21 hours. So we're talking 30 gigawatt hours as
22 opposed to 3000 gigawatt hours. I see you're
23 already familiar with the numbers.

24 So, even if we were to turn off all the
25 gas station canopies in California we would only

1 influence the total number of gigawatt hours used
2 a year by less than 1 percent, okay.

3 Now, take a look at the amount of new
4 construction that's going to occur. There's not
5 going to be a heck of a lot. I mean I'm not going
6 to get into how much our company is going to be
7 building in California, but I don't know of any of
8 the other companies that are building a
9 significant number of new stores.

10 So the amount that we will gain in
11 reducing lighting output by a few percent, or
12 maybe even 20 or 50 percent, is still going to be
13 very limited.

14 So what happens is is that small
15 contribution worth the tradeoff in potential
16 safety. And safety is a big issue for us.

17 We believe that the lighting power
18 densities that are proposed are significantly
19 below what is appropriate for a gas canopy.
20 They're low because of the lighting zone concept
21 that's being used and how it's being applied. And
22 also the target numbers were low to begin with. I
23 won't get into the details of how the IES
24 recommendations of 20, 30 and 50 footcandles for
25 low, medium and high ambient areas compared to the

1 staff's recommendations of 10, 15 and 25, okay.

2 Or you go one, two and three, if you go two, three
3 and four, then it's still 15, 25 and then 50.

4 So that is low. And then to try to
5 back-fit a lighting power density number to that
6 I'm not even sure that the lighting power
7 densities in all cases even facilitated that
8 footcandle reading. I think in one of the charts
9 the target footcandle reading was 15 footcandles,
10 and the actual achieved was 13.9, which is 10
11 percent below. So, those numbers make it
12 difficult for us to get an acceptable level of
13 lighting.

14 Now, why is lighting so important to us?

15 MS. SHAPIRO: Mitch, I want to just make
16 sure that I understand what you're saying. My
17 understanding is what we're talking about is watt
18 limits, not luminance limits, not -- so we're
19 talking about watts to create light, limits on
20 that.

21 MR. GUTELL: Okay, but --

22 MS. SHAPIRO: Is that a safety issue?
23 Or is the amount of light that is in an area the
24 safety issue? I don't think how many watts you're
25 using to produce light is a safety issue. I'm

1 missing something here, or I'm misunderstanding.

2 MR. GUTELL: Okay, let me make that
3 connection, because I've explained it to a lot of
4 people, so let me see if I can do that.

5 Let's say we're going to allow a
6 lighting power density of 1.5 watts per square
7 foot. Actually in the regulation it's for
8 lighting zone 1, .7; and then for lighting zone 2,
9 1; and then for lighting zone 3, 1.25; and then 2
10 watts.

11 And those were based on the target of
12 well, let's target 50 footcandles for lighting
13 zone 4. So based on that number, 50 footcandles,
14 let's create a lighting system that will meet
15 that, that will produce the 50 watts average --
16 I'm sorry, the 50 footcandles average, okay.

17 And then we'll take a look at what the
18 load on that is. When I connect all those lights
19 together, what is the load. And then I take that
20 load, total number of watts for the system, that
21 lighting system, and I divide the number of feet,
22 square feet, that is covered in that lighting
23 system. That is how you end up with the watts per
24 square foot.

25 MS. SHAPIRO: And so if you have more

1 efficient lighting then you can have a really low
2 watts per square foot and lots of brightness in
3 the place where you're filling up your car.

4 MR. GUTELL: Um-hum.

5 MS. SHAPIRO: All yo have to do is have
6 efficient lighting there. And then you can lower,
7 because that's what it is, it's watts per square
8 foot, not amount of light per square foot.

9 MR. GUTELL: No, footcandles. But would
10 you agree that the more watts per square foot I
11 have the more illuminance I can create?

12 COMMISSIONER ROSENFELD: Yeah, but let's
13 get the numbers straight.

14 MR. GUTELL: Okay.

15 COMMISSIONER ROSENFELD: I mean there's
16 an assumption here which Rosella's getting at,
17 that either you're assuming less efficient
18 lighting fixtures than Jim Benya is, or something.
19 There's an assumption here we should get straight.

20 MR. GUTELL: Well, what --

21 MS. SHAPIRO: Wait a minute, and John
22 told us that we could have 400 percent more light
23 per -- 400 percent less watts per square foot,
24 that they are going to have these great
25 improvements over the existing system, if we would

1 only let people retrofit.

2 We agree with him. Good plan. That's
3 what we would like everybody to do is retrofit. I
4 don't see it's a safety issue.

5 MR. GUTELL: And we have been
6 retrofitting. Let me -- I can address separately
7 the issue of retrofitting, if you'd like.

8 MS. SHAPIRO: I just want to understand
9 safety versus watts per square foot.

10 MR. GUTELL: Right, okay. Now, remember
11 when I said we were going to create the lighting
12 system that achieves that 50 footcandles, --

13 MS. SHAPIRO: Um-hum.

14 MR. GUTELL: -- the variable in there,
15 or the thing that is, when you say super
16 efficient, what is the technology that I'm going
17 to use. In other words, what kind of fixtures am
18 I going to use, fixtures that are exotic new
19 technology that are very expensive? Am I going to
20 use just what the industry has been using right
21 now? Or am I going to use, you know, it's like a
22 car. Do I want a very inexpensive car that gets
23 very good gas mileage, or there's all kinds of
24 variables. But all of them get you from home to
25 work.

1 So, when you say efficiency, that
2 efficiency is traded off against cost and
3 operating characteristics and a number of other
4 things. So it's not --

5 MS. SHAPIRO: Right, that's what our
6 business is here.

7 MR. GUTELL: -- like light is light is
8 light.

9 MS. SHAPIRO: That's what we're doing is
10 we're saying you have to get more efficient.
11 That's what the Energy Commission does, is it
12 says, you can have light, you just can't spend
13 lots of electricity to make it happen. It's --

14 MR. GUTELL: And I'll --

15 MS. SHAPIRO: -- not rocket science.

16 MR. GUTELL: Okay. Let me say that the
17 systems that we're using on our new stations, and
18 most of our retrofitted stations are the newer
19 technology, they're pulse start metal halides.
20 Okay, pulse start metal halide is a relatively,
21 you know, if you want to say what's efficient,
22 pulse start metal halide is more efficient than
23 say probe start or super metal halide.

24 MS. SHAPIRO: Okay.

25 MR. GUTELL: Okay, so we are already at

1 the pulse start metal halide level of efficiency
2 type. And when --

3 MS. SHAPIRO: And is the power lighting
4 density not -- you can't use those pulse start
5 halides and achieve that?

6 MR. GUTELL: Yes, I'm using them right
7 now. I'm using them right now. But the thing is
8 when I take a look at my lighting power density
9 for my current designs, they exceed what has been
10 recommended.

11 MR. PENNINGTON: I recall having
12 meetings with you where the conclusion was that
13 this --

14 COMMISSIONER ROSENFELD: Bill, talk a
15 little louder.

16 MS. SHAPIRO: Bill, you have to talk
17 towards the mike. Even though we fixed the mikes,
18 you've still got to talk towards the mike.

19 MR. PENNINGTON: I recall conversations
20 with you where we concluded that the proposed
21 lighting LPDs were satisfactory with your current
22 equipment. So, I'm not sure what's changed in the
23 last short time here.

24 MR. GUTELL: I would beg to differ. We
25 were talking about the luminance levels. I --

1 MR. PENNINGTON: Well, I'm sure we --

2 (Parties speaking simultaneously.)

3 MR. GUTELL: Well, we're talking
4 luminance levels and lighting power densities had
5 not yet been established. And I had asked very
6 specifically to receive the models and receive the
7 studies and the report that showed how that
8 translation from footcandles, which was the
9 original discussion at the last workshop, and the
10 workshop before that, how those would now be
11 translated into watts per square foot. And I
12 never received that, okay.

13 Mr. Benya did provide me a very brief
14 description of some of the assumptions, but I
15 never got a chance to see the full models. And so
16 when I saw what was in the proposal in terms of
17 watts per square foot, and I compared to what our
18 canopies are now, I'm going to have a problem.

19 MS. SHAPIRO: So, Mitch, I want to
20 understand something. I'm sorry to interrupt you,
21 Bill, but I just want to understand this.

22 Your safety issue is light per square
23 foot. And what your problem is is you don't see
24 how you can get the amount of light that you want
25 with the amount of electricity that we would like

1 you to use with the limitation on the amount of
2 electricity we would like you to use to get the
3 light that you want. Is that what the problem is?

4 MR. GUTELL: That is exactly it.

5 MS. SHAPIRO: So it's really not the
6 electricity use is a safety factor. It is a
7 matter of having the right kind of lighting to get
8 that amount of light.

9 MR. GUTELL: Um-hum. Let me --

10 MR. BENYA: If I might just jump in
11 here. Mr. Page and I spent actually a lot of tie
12 this morning talking about gas canopies because
13 his company makes gas canopy lighting.

14 What we looked at specifically were the
15 three IESNA recommended levels I mentioned
16 earlier: 20 footcandles for dark ambient; 30
17 footcandles for medium; and 50 for high.

18 What we agreed to was that the 30
19 footcandle value, which is 1.25, appears to be
20 fine. We agreed the 50 footcandle value, the
21 highest one, we're currently carrying 2.0, appears
22 to be a little low. And so offline we've agreed
23 to boost that to 2.4.

24 We didn't focus on the 20 footcandle
25 level, but since it's 1.0 we think it's probably

1 going to be pretty close.

2 So do you have significantly different
3 power density levels than those, those values, in
4 order to achieve what your designs are today?

5 MR. GUTELL: Without getting into the
6 details of my canopy design, if I remember
7 correctly, looking at the staff, I believe it was
8 table A4, where you were targeting 15 footcandles?

9 MR. BENYA: That's ancient. We are at
10 20, 30 --

11 MR. GUTELL: Sorry, I only know what I
12 got, when I picked off the webpage, so I can only
13 comment to that.

14 MR. BENYA: The values that are in the
15 current draft, the current 45-day and 15-day
16 language are 50 footcandles in lighting zone 4, 30
17 footcandles in lighting zone 3, and --

18 MR. GUTELL: It's 25 in your model.

19 MR. BENYA: Well, it's actually 25 or
20 30. It'll actually make 30. We tested it earlier
21 today. And 20 -- it may have been lower, but 20
22 should be the number for lighting zone 2. If
23 we're not at 20, we'll boost the value to meet 20.

24 MR. GUTELL: Well, then this all --

25 MR. BENYA: And we're using -- lighting

1 equipment, pulse start metal halide, appropriate
2 light loss factors, you know. And --

3 MR. GUTELL: In your email to me you
4 said that there was a light loss factor of about
5 65 to -- .65 to .7, but I didn't see a dirt loss.

6 MR. BENYA: Well, what we're using, you
7 know, in this -- and admittedly, this is, you
8 know, we're in a work in progress, --

9 MR. GUTELL: Okay.

10 MR. BENYA: -- but we're just about
11 there, but Mr. Page and I spent a lot of time on
12 this. What we agreed to -- John, jump in if you
13 think I'm misstating here --

14 MS. SHAPIRO: But come to the mike if
15 you do.

16 MR. BENYA: Yeah, come to the mike if
17 you do -- but what we agreed to was with pulse
18 start metal halide to use 70 percent total light
19 loss factor in mean lumens for the lamp --

20 MR. GUTELL: Um-hum.

21 MR. BENYA: -- calculations, letting the
22 70 percent represent dirt and other things, and
23 letting the mean lamp lumens speak for themselves.

24 MR. GUTELL: Okay. Clearly there's some
25 detail here that I don't have.

1 COMMISSIONER ROSENFELD: And just to
2 visualize this, Jim, what's the light level on
3 your book right now?

4 MR. BENYA: Well, in this room it's
5 probably about 30 to 35 footcandles.

6 COMMISSIONER ROSENFELD: And --

7 MR. GUTELL: I have a light meter if
8 you'd like to check.

9 COMMISSIONER ROSENFELD: And Mitch feels
10 that for safety we have to have one and a half
11 times the light level in this room to avoid being
12 mugged.

13 MR. BENYA: Well, again, we're not --

14 MR. GUTELL: Okay, let me -- let me --

15 COMMISSIONER ROSENFELD: Okay.

16 MS. SHAPIRO: For worker safety. I
17 don't want to, you know, --

18 MR. GUTELL: -- let me address that.
19 Let me address that, and let me address it right
20 now, okay, because I can't speak strongly enough
21 about our concern for safety. It includes worker
22 safety, safety of our employees --

23 MS. SHAPIRO: Customer safety, too.

24 MR. GUTELL: Excuse me?

25 MS. SHAPIRO: Customer safety, too. I

1 fill my gas up late at night.

2 MR. GUTELL: And I was going to get
3 that. Yes, I hope you're doing it at one of our
4 stations.

5 MS. SHAPIRO: I do because you have very
6 good prices.

7 MR. GUTELL: Very good, thank you.

8 (Laughter.)

9 MR. GUTELL: But in 1995 we initiated a
10 project as a result of crime in our stores.
11 Basically it's our employees and our customers.
12 If we can't operate a safe place to be, then we
13 don't need to be in business.

14 The desire to do business is not worth
15 the willingness to harm to a citizen or to a
16 customer, all right.

17 So, we initiated a crime reduction
18 project in 1995. And we had a number of
19 consultants come in and it wasn't too -- the
20 results were not too different in terms of the
21 recommendations from what the OSHA recommendations
22 are. And that is basically make the place
23 uninviting. Increase light levels; make the place
24 easy to see and to be seen from; install cameras;
25 install bulletproof shields in some places, but

1 certainly you can't put a bulletproof shield
2 around your customers.

3 So, we went to basically an over-lit
4 condition. What is now, in retrospect, an over-
5 lit condition. We went from an average 5 to 10
6 footcandles to more than 50, in some cases more
7 than 60, almost 75 footcandles in some areas
8 average.

9 And then since that time, around 1999 we
10 started kicking back the lighting a bit from the
11 400 watt back to a 320.

12 Our crime in general at the stores
13 dropped 55 percent. And violent crime was reduced
14 67 percent. And homicides went down to, at our
15 company-owned stores went to zero from six in a
16 year.

17 MS. SHAPIRO: I commend you for doing
18 it. I love going to ARCO because I do think it's
19 well lit. I don't care how many -- what I'm
20 concerned about is you just said you went from
21 this many watts to that many watts.

22 What we're saying is you can have your
23 light, you can have the light you need, you just
24 have to not use the wrong kind of lamp to get
25 there. You have to use a different kind of

1 lighting that's more efficient.

2 MR. GUTELL: But I am using the right
3 type of light; I'm using pulse start metal halide,
4 which is considered the very efficient technology,
5 and I'm having a hard time getting to those
6 numbers. And so this is my concern.

7 Now, if the numbers in the information
8 that I reviewed is not the most current, then
9 clearly I need to look at that and review that.
10 But, based on what I had, and stuff that, you
11 know, I try to keep up to date with it, I have a
12 hard time meeting those numbers.

13 And so this is my concern.

14 MS. SHAPIRO: I got several people
15 jumping out of their seats to talk, so --

16 MR. GUTELL: Do you all want to buy ARCO
17 gas or --

18 MS. SHAPIRO: -- Doug wants to talk; Pat
19 I've been putting off for awhile. And Mazi wants
20 to answer -- or say something.

21 MR. GUTELL: On this issue or can I go
22 ahead and --

23 MS. SHAPIRO: I think this is all on
24 this issue, right?

25 MR. SHIRAKH: Yeah.

1 MS. SHAPIRO: Are you on this issue?

2 MR. SPLITT: I'm still on the previous
3 issue.

4 MS. SHAPIRO: No, then you're going to
5 wait for a minute because I want to deal with gas
6 stations. Mazi, are you on gas stations?

7 MR. SHIRAKH: Yes.

8 MS. SHAPIRO: Okay.

9 MR. SHIRAKH: Just briefly I want to
10 mention that Jim's models are based on 10
11 footcandles in LZ1, 20 in LZ2, 30 in LZ3, and 50
12 LZ4. He's assuming full cutoff which is very
13 restrictive. He's assuming probe start metal
14 halide which is 30-year-old technology --

15 MR. GUTELL: No, these are pulse. For
16 gas stations are pulse.

17 MR. SHIRAKH: Pulse start. And very
18 ordinary coefficient of utilizations.

19 MR. BENYA: Generic --

20 MR. SHIRAKH: Very generic. So it is
21 easily achievable. And it can be exceeded --

22 MS. SHAPIRO: Well, if Mitch can't
23 achieve it, --

24 MR. SHIRAKH: -- and can be exceeded.

25 MS. SHAPIRO: -- then we've got some

1 sort of communication problem happening is what
2 I'm thinking.

3 MR. PENNINGTON: Well, it sounds like,
4 for one, --

5 MS. SHAPIRO: And Cheryl and Gary --

6 MR. PENNINGTON: -- he's not looking at
7 the right standard.

8 MS. SHAPIRO: -- Flamm, too. Okay,
9 Mitch, you sit down. We're going to let Cheryl
10 talk and then Gary Flamm, and then Doug, and we're
11 not going to let you talk yet, Pat.

12 COMMISSIONER ROSENFELD: But Mitch isn't
13 through with his whole --

14 MS. SHAPIRO: I know, I just want to,
15 because everybody's jumping, you're trying to talk
16 and everybody's jumping up behind you and waving
17 their hands.

18 MS. ENGLISH: Cheryl English, Acuity
19 Brands. I think part of the confusion is that Jim
20 did an exceptional job in developing the models
21 and providing the detail. They were never posted
22 to the CEC website.

23 I received the models because I asked
24 numerous times for the models. A lot of people,
25 such as these here, have not have the privilege of

1 seeing these models. So I think that's a point of
2 where some of this confusion on the power density
3 comes in.

4 MS. SHAPIRO: Okay. And so do you think
5 if they understand the models they won't have a
6 problem, Cheryl? Because you now have seen the
7 model.

8 MS. ENGLISH: I believe that the models
9 that have been redesigned can achieve the
10 appropriate power densities that are proposed for
11 those lighting levels that they're assumed on, the
12 10, 20, 30, 50.

13 MS. SHAPIRO: Okay. Now, Gary, you can
14 come up.

15 MR. FLAMM: Gary Flamm, Energy
16 Commission. I think part of the confusion is that
17 the numbers, Mitch, that you've gotten have been
18 revised as of this morning. So, the numbers that
19 we gave to you, the models, the assumptions that
20 we gave to you, and sitting down with Jim and John
21 Page, we've all sat down. And so maybe you're the
22 last to know. We're still revising these.

23 So I just think that the new numbers are
24 going to meet your need. So I just wanted to
25 clarify that.

1 MS. SHAPIRO: Doug first, then you, Gary
2 Fernstrom. Okay, now, Doug.

3 MR. MAHONE: Normally I'm an energy
4 geek, but actually right now I'd like to speak
5 just as John Q. Citizen here.

6 Because I think there's a perspective
7 that hasn't really come out yet. And that's that
8 these lighting zones, I think, are going to
9 provide some protection for the average joe.

10 And I want to illustrate this with a
11 story of the suburban town where I live where the
12 local biggest intersection has a little mini-mall
13 with some outdoor lights and neon signs. It has a
14 little office building with some facade lighting,
15 and it has a church parking lot.

16 And about three years ago Union 76 came
17 in and built a gas station and a mini-mart. And
18 it has lampposts around the outside with big metal
19 halides; it has a big canopy with a dozen metal
20 halides on it. It has valance lighting on the
21 canopy. It has valance lighting on the building.
22 And it is so bright that when you drive up to this
23 intersection at night with my 53-year-old eyes, I
24 have to shade my eyes before I drive on into the
25 rest of the neighborhood, which is back to street

1 lights and kind of ordinary lighting levels.

2 I really wish that we had had some limit
3 on the lighting power that these bozos put in when
4 they built this thing. The situation now is that
5 they turn the lights down to about half at 11:00
6 at night when they close. It's still the
7 brightest thing around. You still have to almost
8 shade your eyes at their reduced lighting levels.

9 So, the trend in the industry is towards
10 excess. And I think what you're being urged to do
11 is to support that trend towards excess.

12 The situation that we have is anybody
13 else who's going to build anything else at that
14 intersection is going to have to build 50
15 footcandles or whatever these guys are putting on
16 the ground just to be seen.

17 The mini-mart and the little shopping
18 center across the street from this thing looks
19 like it's in the dark, whereas it never occurred
20 to us that it was a dark place until this place
21 got built.

22 So I think there's a real consumer
23 protection element built into this. Right now if
24 you want to defend yourself against these glare
25 bombs, there's nothing you can do. They can do

1 anything they want.

2 So I think this is really actually very
3 important, besides just an energy thing.

4 MS. SHAPIRO: Well, I'm focused on the
5 energy part of it. Okay, now Gary Fernstrom, I
6 said, and then Mazi. Sorry, Gary.

7 PRESIDING MEMBER PERNELL: We're going
8 to have to get off. We have some other people
9 here who want to talk about lighting besides
10 service stations. So, once we get through a
11 couple more of these comments, I want to move on.

12 MS. SHAPIRO: And I interrupted Mitch,
13 so Mitch gets to come back. Fernstrom, you. But
14 first, Mitch, first Gary Fernstrom gets to say
15 something, then Mazi, then you.

16 MR. FERNSTROM: Gary Fernstrom, Pacific
17 Gas and Electric Company. On the issue of the
18 retrofit opportunity and incentives, I'd just like
19 to note that the state's utilities, PG&E, Edison,
20 Sempra have an express efficiency program that
21 gives rebates for conversion to more efficient HID
22 and fluorescent fixtures. And this program is
23 available to gas station operators.

24 MS. SHAPIRO: Good. That was incentives
25 Mitch talked about. Mazi.

1 MR. SHIRAKH: Just briefly. This
2 connection between lighting and crime, now we've
3 heard several times poor outdoor lighting, poor
4 visibility. The implication is low lighting means
5 poor lighting. It may, but there's more to it as
6 Doug explained.

7 You can have a situation where you have
8 a lot of light, but it's very unsafe if you've got
9 fixtures that are glaring. They create disability
10 glare, for instance, or they create deep shadows
11 around the corners, bushes, walls.

12 You can have very poor lighting despite
13 very high levels. And folks at LRC have done a
14 lot of research on this connection. And one of
15 the parameters may be light, the amount of light,
16 but there's a lot more to it.

17 And in some cases, a lot of light, if
18 it's used incorrectly could actually be
19 detrimental.

20 MS. SHAPIRO: Okay, thank you. Mitch,
21 you may finish. The Commissioner has asked me to
22 move along and talk to people with cards. But,
23 Pat, I will let you come back.

24 MR. GUTELL: Okay, so in the interest of
25 moving things along I will not cover everything.

1 Let me go to the case where I am a gas
2 station owner and I'm trying to decide if I want
3 to upgrade my lighting or not. And until this was
4 explained earlier, and I still need to get
5 clarification on this, but if I want to change out
6 the lighting in my canopy, I want to change out
7 everything in there, I would be impacted by the
8 watts per square foot, the lighting power density
9 requirements. And I would also be impacted by the
10 requirement to go to cutoff fixtures.

11 COMMISSIONER ROSENFELD: Only if you
12 replace the entire luminaire, right?

13 MR. PENNINGTON: That applies to the
14 lighting power density, but not to the cutoff
15 requirement.

16 MR. GUTELL: Okay. So I'm a gas station
17 in a rural area and let's say I'm over-lit, okay.
18 I'm at 35 footcandles, which would be over-lit for
19 a rural area, possibly.

20 So I'm at 35 footcandles and I have this
21 decision to make, do I want to replace my lighting
22 and cut it down by say half, I mean cut my energy
23 use down by half, and still maintain my 35
24 footcandles. I can't do that.

25 MR. PENNINGTON: Let me ask a question.

1 In that scenario are you planning to change out
2 your luminaire completely?

3 MR. GUTELL: Well, when you say change
4 out the luminaire, in other words I can squeeze by
5 by changing the guts to the thing, but leaving the
6 can?

7 MR. PENNINGTON: Yes.

8 MR. BENYA: Yeah, you can retrofit it.

9 MR. GUTELL: Okay. What if I can't get
10 a replacement and now I have to replace the whole
11 thing? In other words I change the can, itself.
12 Now I have to go to full cutoff?

13 UNIDENTIFIED SPEAKER: -- 49 percent of it,
14 still not --

15 MR. GUTELL: Okay, so then the incentive
16 is to skirt the law and replace half of them, 49
17 percent?

18 MR. BENYA: You've also got other
19 luminaires on the site, don't you?

20 MR. GUTELL: In other words replace
21 seven of the 15 that I have?

22 MR. BENYA: But you've got other
23 luminaires on the site. You've got pole lights.

24 MR. GUTELL: How is that number to be
25 calculated? Fifty percent of what? In other

1 words, does it include all the fixtures in the
2 store, all the parking lot lighting, or just if
3 I'm doing a canopy, then the functional use area
4 is the canopy and that needs to be addressed.

5 MR. PENNINGTON: The latter.

6 MR. GUTELL: That's what I thought.
7 Okay, so when you said there was other lighting
8 around, that doesn't count in the 50 percent
9 calculation?

10 MR. PENNINGTON: That's not the way it
11 was perceived. That's not the way it was --

12 MS. SHAPIRO: Well, we better be clear
13 how we write it so that people can't sleaze around
14 it.

15 (Parties speaking simultaneously.)

16 MR. GUTELL: Yeah, I don't want to be in
17 that position, myself, --

18 MR. SHIRAKH: Well, we had this question
19 come up in the indoor lighting situations. We
20 revised the language extensively in the 2001
21 manual. And so this is a manual problem in my
22 mind. And we need to clarify it.

23 MS. SHAPIRO: Okay, --

24 MR. GUTELL: Okay, now the other thing
25 is with regard to lighting zones, let me add in my

1 two cents worth. I would suggest that the concept
2 of lighting zones is a good one, and that is that
3 you want to create the appropriate lighting
4 requirements for the appropriate area.

5 For example, Commissioner Rosenfeld,
6 your comment was it takes a certain amount of
7 light to change the oil in my car. Why would that
8 change depending on the ambient. Well, as this
9 gentleman just mentioned, this gentleman here,
10 mentioned that the ambient lighting of the
11 surrounding areas affects your ability to see in
12 any area.

13 So, we agree that the idea is that if
14 you're in a rural area you don't need the same
15 brightness and illumination as you would as in,
16 say, a street corner in Los Angeles, in the
17 downtown or any of the strip malls or anything
18 along any of the areas in Los Angeles. So that's
19 why it's appropriate to have 20, 30 and 50.

20 But really the character of the lighting
21 in the community is more proportional not to
22 population but to the zoning designations in an
23 area. So why not tie it to the designations of
24 retail, commercial, industrial and residential.
25 And then also to the density numbers that, for

1 example, if you have a commercial 2 is less dense
2 than a commercial 3.

3 So why not tie the lighting power
4 density numbers to those numbers which reflect the
5 current conditions in the community as opposed to
6 tying it back to something that was issued in the
7 year 2000. And by 2007 or 2005 really does not
8 really reflect that community anymore.

9 So, I would suggest get rid -- I mean
10 while it's a bold and valuable experiment to try
11 or to look at, to go through the exercise, I think
12 probably the more easily workable solution would
13 be to tie it to existing zoning designations.
14 This allows the community to really control what
15 it wants. So that when it says an area is going
16 to be a retail 3 area, that that ties everybody,
17 and it allows the community to create what it
18 feels is the appropriate ambient for that
19 designation that they have in mind.

20 So, I would suggest tied to existing
21 zoning designations which may not be identical
22 from community to community, but the concept is.
23 And every community is required to have a master
24 plan and matching zoning to it. So really all the
25 homework is done in that regard. So that is the

1 proposal I would make.

2 The other thing is in terms of --

3 PRESIDING MEMBER PERNELL: Let me just
4 interrupt.

5 MR. GUTELL: I'm sorry?

6 PRESIDING MEMBER PERNELL: I'm sorry,
7 let me interrupt you because having sat on the
8 planning commission, those planning the general
9 plan, all of that stuff changed depending upon
10 who's there.

11 So, we're trying to set a statewide
12 standard. And if you tie it to something that's
13 fluid, I'm not sure that that works.

14 MR. GUTELL: Okay. Having been involved
15 in zoning, myself, in terms of trying to limit
16 over-growth and over-development in areas, I
17 understand those things are fluid. But they do
18 represent the will of the community. And so this
19 gets into a whole discussion, I'm sure, as to how
20 much we want to impose the will of this agency on
21 this specific issue statewide across communities
22 that are trying to set their own character in
23 terms of their zoning in their planning.

24 Let me also propose an idea. It's an
25 idea that the state has already used for solar

1 power installations. We, at ARCO, put solar
2 canopies, solar generation systems on our
3 canopies, so the top side absorbs the light, the
4 bottom side uses the light, I guess.

5 But what the state did there was say
6 that any improvements that are made with regards
7 to installing a solar canopy will not be included
8 in the assessed valuation of the property. So
9 basically you improve it, you do some societal
10 good. And then you get hit with taxes.

11 I would suggest that that kind of tax
12 incentive be forwarded to any lighting
13 improvements that are made. So that helps balance
14 the equation just a little bit more, if there's
15 this 15 percent tax savings, or at least there's
16 the position that you will not be penalized with
17 increased assessments because of the property
18 value increases that result from that.

19 PRESIDING MEMBER PERNELL: I'm going --

20 COMMISSIONER ROSENFELD: I understand.
21 I hear you, but getting involved with taxes is
22 complicated. You just heard this very nice
23 suggestion on your immediate right that the PG&E
24 already has an efficiency rebate program. And it
25 seems to me that's what you're reinventing.

1 MR. GUTELL: That is available for
2 stores served by public utility -- well, investor-
3 owned, that's Edison, San Diego Gas and Electric,
4 but --

5 COMMISSIONER ROSENFELD: It's three-
6 quarters of the state, yeah.

7 MR. GUTELL: Excuse me?

8 COMMISSIONER ROSENFELD: It's about
9 three-quarters of the state, of California.

10 MR. GUTELL: Okay. I know that that
11 money is also limited. We've used that program,
12 too.

13 PRESIDING MEMBER PERNELL: All right, --

14 MR. PENNINGTON: Just a comment related
15 to the financial incentives thing for a second.
16 SB-5X told the Commission to adopt standards in
17 the context of the standards authority that we
18 currently have. And that standards authority
19 doesn't include creating financial incentives
20 within the building standards.

21 COMMISSIONER ROSENFELD: Right.

22 MS. SHAPIRO: Okay.

23 PRESIDING MEMBER PERNELL: Nor can we do
24 anything with the tax incentives; that's a
25 legislative fix. So, you're kind of out of the

1 jurisdiction of any type of tax incentive.

2 MR. GUTELL: Okay.

3 PRESIDING MEMBER PERNELL: So, we have
4 any other -- thank you.

5 MS. SHAPIRO: Thank you. Pat Splitt,
6 Mike Gabel and then I think we're done. Right?
7 Oh, Cheryl, do you want to talk again?

8 MS. ENGLISH: At the end.

9 PRESIDING MEMBER PERNELL: All right,
10 Cheryl will be the wrap-up here. And then we got
11 to move on. We do have signs and some other
12 outdoor lighting --

13 MS. SHAPIRO: Okay. Pat.

14 PRESIDING MEMBER PERNELL: -- issues to
15 cover.

16 MR. SPLITT: Okay, this will be real
17 brief. It goes back to comments made earlier
18 about burdens on municipalities with these zoning,
19 and especially going from zone 3 to zone 4.

20 Seems to me that what you're creating
21 the energy code will be part of the building code,
22 so you'll have a building code that, in general,
23 in urban areas, will require zone 3 lighting. But
24 you're giving an option to municipalities to elect
25 to go to zone 4 for part of their area.

1 It seems to me what you're saying they
2 can do and what they would be doing is amending
3 the building code.

4 MR. PENNINGTON: No.

5 MR. SPLITT: Yes. The building code
6 says you're in zone 3, you're allowing the city to
7 say, well, okay, we want to change that, we want
8 to make it zone 4. And the State Building
9 Standards Commission has specific rules on when
10 and how municipalities can amend the building
11 code, which the state energy code is part of.

12 So I think you should look at that and
13 see how this fits in. Because I think they're
14 going to interpret it that way. And there are
15 things like I think they only have six months
16 after adoption to make amendments.

17 PRESIDING MEMBER PERNELL: But there is
18 flexibility in the building code, as well, so --

19 MS. SHAPIRO: And we do let people adopt
20 their own higher efficiency standards, local
21 standards already in the State Building Standards
22 Commission --

23 MR. SPLITT: Well, I just want to
24 suggest that you check and make sure that there's
25 no conflict.

1 MS. SHAPIRO: We'll check. Thank you.
2 Gabel.

3 MR. GABEL: Mike Gabel, CABEC. I'll be
4 very brief. I think this issue of replacing 50
5 percent of the fixtures has been trouble in the
6 standard for a long time. I'd like to see staff
7 and consultants try to clarify this in the manual,
8 both for indoor lighting and exterior lighting.
9 It's going to be really important to do that this
10 round.

11 On lighting zones, just a quick
12 question. When the standard takes effect in 2006,
13 will the building official know what lighting zone
14 applies to which buildings? It's like climate
15 zones, some of them will, some of them won't. I'd
16 like the Commission to make an extra effort in
17 training and information to help the local
18 officials understand how this is going to work.
19 It's going to be a major challenge.

20 And finally on -- well, on the issue of
21 if you do make any exemptions or exceptions for
22 existing buildings, I would definitely not tie it
23 to existing lighting. I would tie it to the new
24 standard if you're going to make any exceptions,
25 in other words in terms of total wattage.

1 You don't want to say let somebody
2 reduce their wattage by so many watts compared to
3 the existing. Because documenting the existing
4 lighting is impossible.

5 So stick to the current standard as a
6 baseline.

7 MR. SHIRAKH: Can I respond to one of
8 his questions at least?

9 MS. SHAPIRO: Okay.

10 MR. SHIRAKH: Mike, in the 2001
11 standards I worked extensively with your partner
12 in crime, --

13 MR. GABEL: Gary.

14 MR. SHIRAKH: -- Gary Farber

15 MR. GABEL: Right.

16 MR. SHIRAKH: We, on the 50 percent rule
17 for indoor, and we changed that section. We have
18 several examples.

19 MR. GABEL: Right.

20 MR. SHIRAKH: Is it not clear to you?

21 MR. GABEL: It's still not clear, and
22 especially in outdoor lighting it's still
23 exceptionally not clear. So I think we still need
24 to --

25 MR. SHIRAKH: We haven't done anything

1 for outdoor lighting --

2 MR. GABLE: Right. So we need to
3 really, we just --

4 MS. SHAPIRO: Okay, talk about it
5 offline.

6 MR. GABEL: Right, we will.

7 MS. SHAPIRO: Cheryl, get up and wind
8 up, please.

9 MS. ENGLISH: Cheryl English, Acuity
10 Brands. I just want to provide clarification for
11 the record on a couple of comments that Gary made.

12 He indicated that the industry wants no
13 limits because that's the business that we're in.
14 I have to strongly disagree with that. We're in
15 the business of providing efficient and effective
16 lighting that meets the needs of nighttime
17 visibility and security requirements.

18 We've invested significant time and
19 money in working with the CEC to provide
20 meaningful limits. We've endorsed the zone
21 concept which limits excessive lighting. We've
22 endorsed the CEC cutoff optic criteria which
23 addresses glare, which is what Doug was actually
24 referencing, not illuminance.

25 And we've demonstrated significant

1 energy improvements in the products that we design
2 and develop.

3 The second issue he mentioned that no
4 one's asking retailers to increase their light
5 levels. Retailers have significant liability
6 issues that they have to address. The community
7 has not financial stake in those liability issues.
8 So the trick before us is to make sure that these
9 power densities provide the right balance between
10 the community needs and those liability issues
11 that the retailers are being faced with.

12 Thank you.

13 PRESIDING MEMBER PERNELL: Okay, --

14 MR. BENYA: I have a rebuttal that I
15 think we need to rebut Cheryl --

16 PRESIDING MEMBER PERNELL: Okay, --

17 MR. BENYA: It will just take a second.

18 MS. SHAPIRO: Okay, Jim.

19 MR. BENYA: Let me just very quickly go
20 through these. What Cheryl may be unaware of, and
21 some of those others of you who study the models
22 need to be aware of this.

23 (Pause.)

24 MR. BENYA: Okay, one of the first
25 things when Cheryl introduced this very recent

1 IESNA document it points out that when security is
2 an issue there's a decision that needs to be made
3 deciding whether you design for the lower ordinary
4 light levels she referred to, or to higher
5 security levels.

6 There's 11 possible reasons. I want to
7 point out, they're based on the existence of
8 security issues, et cetera, et cetera.

9 What it does, and this is very important
10 because I'm going to address this in a second, it
11 increases the recommended light levels in parking
12 lots to up to three footcandles, or three
13 footcandles is a pretty standard number, five
14 footcandles near stores. Most of our models and
15 most of our lighting zones are not designed for
16 those light levels.

17 It increases the hardscape light levels,
18 that is walkways between .6 and 1. Now, for
19 security it says a gas pump only needs six
20 footcandles, not 50. And the walks and grounds
21 near a gas station three footcandles, certainly
22 not 50, again.

23 We are not necessarily, by the way,
24 going to change anything because of that.

25 What I do want to point out is the way

1 we did the modeling. We have actually excessive
2 potential in the models, not big-time excessive,
3 but there is some room built into them for them to
4 grow.

5 Our basic model is the one in the
6 middle, 400 watt probe start for the zone 4
7 parking model. At .11 watts a square foot,
8 although we allow .19, it meets it barely, the
9 three footcandles that we set out to provide in
10 lighting zone 4.

11 If you simply use that same power
12 density you can get as high as 5.3 footcandles if
13 you go to high pressure sodium light sources.
14 Furthermore, your theoretical maximum
15 possibilities under these conditions are 11
16 footcandles using high pressure sodium, or seven
17 footcandles using pulse start metal halide, using
18 the full .19 watts a square foot.

19 These are all, by the way, well within
20 the uniformity recommendations that they make of
21 less than four to one.

22 So, I believe that lighting zone 4
23 model, and the lighting zone 3 model, both of them
24 have enough head room built into them. So if you
25 feel you need to meet the security lighting level

1 requirements in the IESNA's latest publication --
2 remember this publication just came out -- we can
3 still do it. There is headroom built into all the
4 parking models.

5 Likewise, the walkway models have got
6 headway built into them naturally.

7 I don't feel, in essence, summary that
8 we actually have a problem with our current
9 recommended levels for parking lots, hardscape
10 walkways not having enough headroom built into
11 them, because you see when we built the models,
12 the models would come in at .07 watts a square
13 foot. But we put into the standard .1. We did
14 that on purpose so there would be some headroom
15 for the unusual conditions of individual projects.

16 So our models did not set the exact
17 value. We then used judgment to increase the
18 standard value a little bit to accommodate
19 different conditions.

20 So I do believe that there is headroom,
21 and I don't feel that we need to change the values
22 the way Cheryl has proposed. And now we can go
23 back to the lights.

24 PRESIDING MEMBER PERNELL: Okay.

25 MS. HEBERT: Does anybody care to have

1 these numbers left up?

2 MR. PENNINGTON: We're going to change
3 subjects.

4 MS. HEBERT: Okay.

5 MR. SHIRAKH: Cheryl wants a rebuttal.

6 PRESIDING MEMBER PERNELL: All right,
7 we're going to move on. I think we've exhausted
8 this topic. But we do encourage, and it has been
9 stated, that staff and their consultants want to
10 work with folks offline that still have issues
11 here. And the results of that work will then come
12 back to the Committee and we'll decide.

13 So what I'd like to do, because the hour
14 is getting late and I want to thank everybody for
15 hanging around that we haven't gotten to your
16 particular issue yet. And I can tell you that
17 we're on our way here.

18 And the next one is?

19 MS. SHAPIRO: Jeff Aran.

20 PRESIDING MEMBER PERNELL: And Jeff will
21 be addressing?

22 MS. SHAPIRO: Section 147, 148. Jeff,
23 you're on.

24 MR. ARAN: Mr. Chairman, Members of the
25 Commission, Jeff Aran on behalf of the California

1 Sign Association.

2 After hearing everyone speaking here
3 today I have in part nothing but praise from
4 earlier on. We have worked with staff diligently
5 over the last year and a half or so trying to get
6 our issues resolved, and most of our issues
7 pertaining to signage have been resolved.

8 We have a couple of gaps in the program
9 that need to be addressed. One is this 50 percent
10 alternative, you know, replacement issue. And I
11 think we're going to get that language resolved.
12 And other people here have spoken about it at
13 length.

14 The other one, of course, is we remain
15 firmly opposed to the zone concept, even though it
16 doesn't apply to signage. We think that it's
17 faulty thinking and logic. It's never been
18 applied or tested anywhere, and we adopt and
19 encourage the suggestions of Ms. English with
20 regard to the alternatives that are out there.

21 I also --

22 PRESIDING MEMBER PERNELL: Well, let me
23 just --

24 MR. ARAN: Yeah.

25 PRESIDING MEMBER PERNELL: -- let me

1 stop you there because Ms. English also said that
2 the IES is contemplating zones, as well. So it
3 appears to me that zones are going to be in the
4 future.

5 MR. ARAN: I appreciate that comment.
6 However, the zones based on population and census
7 have not been done anywhere. And --

8 PRESIDING MEMBER PERNELL: Okay, so
9 you're talking about zones based on census data?

10 MR. ARAN: Land use. Land --

11 PRESIDING MEMBER PERNELL: Not
12 necessarily zones.

13 MR. ARAN: Right, not population zones.
14 If you want to base it on some other standard, you
15 know, we'll take a look at it. But, I think that
16 it's a real mistake for the Energy Commission to
17 start getting into the land use planning business.
18 And that seemingly is what I'm hearing today, and
19 what I see is happening, although not intentional.

20 The lighting zones are not climactic,
21 don't have a climactic effect. And I hear it over
22 and over again. I hear it in Mr. Benya's
23 comments, remarks about glare and whatnot. And,
24 of course, as Ms. Shapiro has rightfully pointed
25 out, it's not about glare, it's about energy

1 efficiency. And we would ask that the Commission
2 continue to focus on the energy efficiency aspects
3 of it.

4 Having said that and having heard the
5 comments that have been made earlier, I think I
6 will conclude my remarks.

7 PRESIDING MEMBER PERNELL: Thank you.

8 MR. ARAN: And I look forward to meeting
9 with Mazi again shortly.

10 MR. SHIRAKH: He mentioned retrofits for
11 signs. And he referred back to the earlier
12 discussion, but I want to mention that the
13 retrofit for sign requirements are different.

14 MS. SHAPIRO: Okay, but you guys are
15 going to talk about that, and Jeff feels confident
16 that you'll be able to resolve that?

17 MR. SHIRAKH: Basically for signs, the
18 retrofit requirement is that if they have
19 ballasts, if there are ballasts in a sign, and
20 more than 50 percent of the ballasts are replaced,
21 then they will have to comply with either
22 alternative 1 or 2. It's very different than the
23 gas station retrofit that we're talking about.

24 MR. ARAN: It's true. And on the other
25 hand, what we'd also like to make clear, and we

1 would urge this change, is that the language
2 include an exception if it's just for routine
3 maintenance.

4 Because you have signs that have routine
5 maintenance on a regular basis. You go in after
6 so many number of months and you change bulbs.
7 You might change ballasts because they wear out
8 over time.

9 If a sign happens to have three ballasts
10 and you have to replace two, well, that's
11 obviously more than 50 percent. But I don't think
12 the Commission intends to have to have somebody
13 rewire an entire sign just for routine maintenance
14 issues.

15 So, we need to get some clarification
16 and some greater restriction when it comes to
17 that. It could be a real problem.

18 PRESIDING MEMBER PERNELL: Okay.

19 MR. ARAN: I think I had one other
20 comment here. No, that's it.

21 MS. SHAPIRO: Thank you.

22 PRESIDING MEMBER PERNELL: Thank you.
23 Thank you for working with the staff and
24 consultants.

25 MS. SHAPIRO: Let's have Harold Jepsen

1 come up, and, Harold, you can talk about both of
2 your issues, because we're going to move fast.

3 MR. JEPSEN: Yeah, hopefully this will
4 go pretty quick. Just two comments in reviewing
5 the 45-day language. And the first one had to do
6 with inside section 119 where we talk about multi-
7 level astronomical control. That we -- did I say
8 my name? Harold Jepsen from the Watt Stopper.

9 COMMISSIONER ROSENFELD: Yeah, I
10 wondered what astronomical control is, too. So,
11 thank you.

12 PRESIDING MEMBER PERNELL: Now we know,
13 the Watt Stopper.

14 COMMISSIONER ROSENFELD: I don't know.

15 MR. JEPSEN: Oh, it's right there. On
16 page 68 where it says multi-level astronomical
17 time switch controls, it seems to indicate that
18 it's only talking about that for daylighting. And
19 I know that we're applying that also to outdoor
20 lighting.

21 And so my recommendation there is that
22 we include requirements for making, for
23 daylighting, the astronomical time clocks or time
24 switches to also apply for outdoor lighting.

25 The other comment that I had had to --

1 it was just a question. And that is that we are
2 putting acceptance requirements inside for
3 lighting controls in section 131. And the
4 question is why don't the same exception
5 requirements also apply to controls for outdoor
6 lighting, as well. Or find some way to have it in
7 conjunction when it's a part of the building.

8 If we're having somebody provide
9 acceptance requirements inside of a building, that
10 they should include the exterior lighting which is
11 usually connected to the same system.

12 MR. PENNINGTON: I think they do.

13 MS. SHAPIRO: But we need to make sure
14 that's clear because he's asking --

15 MR. JEPSEN: Yeah, I didn't see it in
16 that section. So, I appreciate the Commission's
17 time and it's been a very open effort I think that
18 you guys have done, to allow everyone to make
19 comment. Thanks.

20 PRESIDING MEMBER PERNELL: Thank you.

21 MS. SHAPIRO: Now you're making me feel
22 bad about Cheryl. You can talk at the very end,
23 Cheryl. At the very end. Let's let the sign
24 people talk, and then you can talk.

25 PRESIDING MEMBER PERNELL: Well, wait a

1 minute. I have a question for staff because
2 Commissioner has raised this. The definition of
3 what control?

4 COMMISSIONER ROSENFELD: Astronomical.
5 I still don't understand what it means.

6 MR. SHIRAKH: Well, what it means is
7 basically sunset changes, or sunrise, with the
8 season as, you know, the earth goes around the
9 sun. The astronomical time clock basically
10 compensates for that.

11 So if two --

12 COMMISSIONER ROSENFELD: So is this some
13 sort of microprocessor which knows the sunset --

14 MR. SHIRAKH: It could be a mechanical,
15 too. Or it could be a microprocessor. Basically
16 the sun is rising today at 6:00; tomorrow it may
17 be at 6:02. You'll compensate for that.

18 COMMISSIONER ROSENFELD: Yeah, it used
19 to be done with photocells.

20 MS. SHAPIRO: Yeah, why won't --

21 COMMISSIONER ROSENFELD: What's wrong
22 with the photocell?

23 MR. SHIRAKH: Either one would satisfy
24 the requirements.

25 MR. BENYA: Actually photocells fail and

1 are hard to access. And time --

2 COMMISSIONER ROSENFELD: Um-hum. So
3 they're gradually being replaced with something
4 smarter.

5 MR. BENYA: And time control devices are
6 actually more reliable in the long run, often.

7 COMMISSIONER ROSENFELD: Okay.

8 MS. SHAPIRO: They're probably more
9 expensive.

10 PRESIDING MEMBER PERNELL: And that's
11 something I understand.

12 MS. SHAPIRO: Okay.

13 PRESIDING MEMBER PERNELL: Time control
14 devices versus --

15 MS. SHAPIRO: Photocells.

16 PRESIDING MEMBER PERNELL: Well, no, no,
17 not the photocells, but the --

18 MR. BENYA: Automatically changes the
19 turn-on and turn-off time relative to the change
20 of season.

21 PRESIDING MEMBER PERNELL: Okay.

22 COMMISSIONER ROSENFELD: Thanks.

23 PRESIDING MEMBER PERNELL: Well, we can
24 bring Cheryl up --

25 MS. SHAPIRO: Cheryl, come on right now.

1 One last shot.

2 PRESIDING MEMBER PERNELL: Cheryl is our
3 very special guest, she gets the mike.

4 MS. ENGLISH: Cheryl English, Acuity
5 Brands. I think these comments are important to
6 get on the public record because the data that Jim
7 has presented here today is the first time we've
8 seen any of that data.

9 He talks about the slack in his models,
10 and yes, there is slack in his models. But his
11 models are also based on very large, very uniform
12 layouts without restrictions on where you can
13 locate poles. So, you know, as I presented in the
14 data that on the retailers with smaller sites
15 there's more challenges in where you can locate
16 poles. And, in general, the power density will be
17 higher because of those site restrictions on where
18 you can locate the poles.

19 The data he presented also was based on
20 three footcandles for the parking lots, but the
21 security measure is 3 footcandles for the parking
22 lot; 5 footcandles for that area of the lot near
23 the store. So those models would have to be re-
24 evaluated so that those areas closer to the store
25 had 5 footcandles.

1 He also mentions the use of HPS meeting
2 the current requirements. HPS is not an
3 acceptable source for retail sites.

4 And then we just recently had this
5 comment with regard to photocells failing. I
6 would encourage you not to penalize photocells
7 because of that, because quality photo controls do
8 not fail.

9 Thank you.

10 MS. SHAPIRO: You're welcome.

11 PRESIDING MEMBER PERNELL: All right.
12 We're moving on.

13 MS. SHAPIRO: Mark Gastineau.

14 MR. GASTINEAU: Commissioners, --

15 PRESIDING MEMBER PERNELL: Mark.

16 MR. GASTINEAU: -- Rosella, I'd just
17 like to --

18 MS. SHAPIRO: Say what your last name
19 is, because --

20 MR. GASTINEAU: Mark Gastineau.

21 MS. SHAPIRO: Mark Gastineau, I said it
22 right.

23 MR. GASTINEAU: You were close. If we
24 were in France you'd probably pronounced it right.
25 I'd like to thank Mazi and Gary for all

1 their hard work. We've came a long ways. Mr.
2 Gutell's been with us in a few meetings, and we've
3 worked very hard to come up with something that we
4 think can work for the industry, save some energy
5 and not interrupt our message.

6 We still have some things to work out
7 like unfiltered signs. This model of replacing
8 signs or ballasts, if I replace more than 50
9 percent then I have to rewire the sign.
10 Electronic ballasts do not wire the same way as
11 coil ballasts, so you're talking a very big cost.

12 And the fact is that there's no way for
13 you to regulate it. We do this in service.
14 There's no permit generated. We go out to a sign;
15 if we have to replace ballasts there's nobody
16 there to permit us to say, okay, you're going to
17 have to rewire the sign. So those signs should be
18 grandfathered in, and should be able to be
19 maintained for their use.

20 Lighting zones, everybody's talked about
21 that. They've made more sense to me today than
22 they have in the two years we've been trying to do
23 this. And I think she's put some great effort
24 into this to show how this will be an economic
25 impact in California.

1 People associate light with safety.
2 They associate light with advertising, things
3 going on. And if they don't have light, people do
4 not stop. And ask any restaurant person or
5 anything else, if they have lights out on their
6 sign or the front of their building, it's as bad
7 as your restaurant being dirty. People don't come
8 back. And I think that's an important effort to
9 know.

10 We're looking forward to working with
11 staff and doing some interpretations of things for
12 the manual. I brought up some architectural
13 lighting things yesterday, like Old Sacramento.
14 Your external lighting formulas are made for
15 billboards. If you have a mural on a wall and you
16 were doing external lighting, those lighting
17 limits do not work. There's no way to light an
18 architectural light signage that way. So we need
19 to take some looks at that; staff said we would
20 take some looks at that.

21 We also talked, and we talk unfiltered
22 signs, if you will, you have a back-lit sign. It
23 might have some incandescent bulbs around it or
24 some neon. It does not consider into the watts
25 per square foot, but there's some ideas I gave

1 Mazi that we'll put in the manual, so those will
2 be interpreted correctly.

3 And we just want to go on record as
4 thanking staff, and we've come a long ways. And
5 that's good for California, but we do need to make
6 sure that we don't try to go through this and take
7 all the light out of the retail areas that we need
8 to have to do business. Because it's hard enough
9 to do business in California now. We see what's
10 going on with the workmens comp and all these
11 other areas, and we cannot put another burden on
12 business in California.

13 It needs to make sense; it needs to save
14 energy without interrupting business.

15 Thank you.

16 MS. SHAPIRO: Thank you.

17 PRESIDING MEMBER PERNELL: Thank you.

18 MS. SHAPIRO: And finally, last but not
19 least, Robert Garcia.

20 PRESIDING MEMBER PERNELL: I thought you
21 were going to say Cheryl.

22 (Laughter.)

23 MR. BENYA: I did, too.

24 MS. SHAPIRO: Oh, no. I'm not going to
25 let Cheryl talk again.

1 (Laughter.)

2 MR. GARCIA: I'll be very brief. I just
3 wanted to appear today and to thank the
4 Commissioners and the staff, the consulting team.
5 My last appearance before you was a little
6 contentious; sorry about that.

7 We have very strong feelings about
8 applying lighting zones to signs. As I understand
9 the current iteration that is not the case.
10 Statewide standard, irrespective of zones, two
11 ways at least to comply, a wattage per square foot
12 and electronic ballasts.

13 For my client who makes just one type of
14 sign, internally illuminated signs, we have no
15 problem with what you have. I think Jeff and Mark
16 represent companies -- and Jeff many because he
17 represents the Association, who make different
18 kinds of signs. So their views, I think, on many
19 issues are very legitimate.

20 So, I want to thank everybody.
21 Appreciate it very much.

22 PRESIDING MEMBER PERNELL: Thank you,
23 Mr. Garcia.

24 Cheryl, do you have anything else? All
25 right, before we close does anyone have anything

1 else, either staff or any of the audience or any
2 of the consultants?

3 Let me just say that I really appreciate
4 the effort that has been put into these regs or
5 proposed regs at this point. Also, all of the
6 people that participated.

7 And I think Mr. Garcia was correct, when
8 we first started this it was like very
9 contentious, and we've come a long way. And I
10 think that a lot of the credit goes to the staff
11 and their consultants, as well as the stakeholders
12 who have called and emailed and showed up in my
13 office and pulled me off the street and everything
14 else. But that's fine, because that's the way you
15 get it done.

16 Everybody's not going to be happy with
17 these, probably including myself. But, what we
18 will do, and what we have done in the past, but
19 what we will do is take the comments; go back;
20 staff has agreed to sit down and work with those
21 who still have issues.

22 I would just say that don't wait until
23 this comes before the full Commission. If you
24 have an issue contact the staff and get it, start
25 working on it. Because it's been proven that a

1 lot of times we can work those issues out.

2 I think everybody has the same
3 bottomline, and that is not to turn the lights off
4 on retail; not to make it unsafe; but also to save
5 some energy and be smart about outdoor lighting.
6 And that's what we're trying to do.

7 And I think that, you know, it's been
8 said that, you know, California is kind of do
9 their own thing out there, but what I'm hearing is
10 the entire industry is moving toward zones. And
11 I've learned some more about zones that I didn't
12 even know.

13 So I think that it's been a long day,
14 but I think it's been a very productive day. And
15 I just want to thank again everybody for hanging
16 around, for educating the Commissioners here. And
17 I want to thank Rosella for cracking the whip when
18 it needed to be, and sometimes when it didn't.

19 (Laughter.)

20 MS. SHAPIRO: I get carried away with
21 power.

22 PRESIDING MEMBER PERNELL: But, again, I
23 want to thank you all. And if there's nothing
24 else to come before this Committee this hearing is
25 adjourned.

1 Do we have anything else?

2 Thank you all for coming. We're off the

3 record.

4 (Whereupon, at 5:35 p.m., the hearing

5 was adjourned.)

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CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter,
do hereby certify that I am a disinterested person
herein; that I recorded the foregoing California
Energy Commission Hearing; that it was thereafter
transcribed into typewriting.

I further certify that I am not of
counsel or attorney for any of the parties to said
hearing, nor in any way interested in outcome of
said hearing.

IN WITNESS WHEREOF, I have hereunto set
my hand this 18th day of September, 2003.

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